

SUBCHAPTER C—HAZARDOUS MATERIALS REGULATIONS

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

AUTHORITY: 49 U.S.C. 5101-5127, 44701; §4, Pub. L. 101-410, 104 Stat. 890 (28 U.S.C. 2461 note); §31001, Pub. L. 104-134, 110 Stat. 1321; 49 CFR 1.45 and 1.53.
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§171.1 Purpose and scope.

(a) This subchapter prescribes requirements of the Department of Transportation governing—

(1) The offering of hazardous materials for transportation and transportation of hazardous materials in interstate, intrastate, and foreign commerce by rail car, aircraft, motor vehicle, and vessel (except as delegated at §1.46(t) of this title), (except that until October 1, 1998, this subchapter applies to intrastate carriers by motor vehicle only in so far as this subchapter relates to hazardous waste, hazardous substances, flammable cryogenic liquids in portable tanks and cargo tanks, and marine pollutants).

(2) The representation that a hazardous material is present in a package, container, rail car, aircraft, motor vehicle, or vessel.

(3) The manufacture, fabrication, marking, maintenance, reconditioning, repairing, or testing of a packaging or container which is represented, marked, certified, or sold for use in transportation of hazardous materials.

(4) The use of terms and symbols prescribed in this subchapter for the marking, labeling, placarding and description of hazardous materials and packagings used in their transport.

(b) Any person who, under contract with any department, agency, or instrumentality of the executive, legislative, or judicial branch of the Federal Government, transports, or causes to be transported or shipped, a hazardous material or manufactures, fabricates, marks, maintains, reconditions, repairs, or tests a package or container which is represented, marked, certified, or sold by such person as qualified for use in the transportation of a hazardous material shall be subject to and comply with all provisions of the Federal hazardous materials transportation law, all orders and regulations issued thereunder, and all other substantive and procedural requirements of Federal, State, and local governments and Indian tribes (except any such requirements that have been preempted by the Federal hazardous materials transportation law or any other Federal law), in the same manner and to the same extent as any person engaged in such activities that are in or affect commerce is subject to such provisions, orders, regulations, and requirements.

(c) Any person who knowingly violates a requirement of the Federal hazardous material transportation law, an order issued thereunder, subchapter A, an exemption issued under subchapter A, of this subchapter, is liable for a civil penalty of not more than \$25,000 (\$27,500 for a violation that occurs after January 21, 1997) and not less than \$250 for each violation. When the violation is a continuing one and involves the transporting of hazardous materials or the causing of them to be transported or shipped, each day of the violation constitutes a separate offense. Any person who knowingly violates §171.2(g) of this subchapter or willfully violates a provision of the Federal hazardous material

transportation law or an order or regulation issued thereunder shall be fined under Title 18, United States Code, or imprisoned for not more than 5 years, or both.

§171.2 General requirements.

(a) No person may offer or accept a hazardous material for transportation in commerce unless that person is registered in conformance with subpart G of part 107 of this chapter, if applicable, and the hazardous material is properly classed, described, packaged, marked, labeled, and in condition for shipment as required or authorized by applicable requirements of this subchapter, or an exemption, approval or registration issued under this subchapter or subchapter A of this chapter.

(b) No person may transport a hazardous material in commerce unless that person is registered in conformance with subpart G of part 107 of this chapter, if applicable, and the hazardous material is handled and transported in accordance with applicable requirements of this subchapter, or an exemption, approval or registration issued under this subchapter or subchapter A of this chapter.

(c) No person may represent, mark, certify, sell, or offer a packaging or container as meeting the requirements of this subchapter or an exemption, approval or registration issued under this subchapter or subchapter A of this chapter, governing its use in the transportation in commerce of a hazardous material, whether or not it is used or intended to be used for the transportation of a hazardous material, unless the packaging or container is manufactured, fabricated, marked, maintained, reconditioned, repaired and retested, as appropriate, in accordance with applicable requirements of this subchapter, or an exemption, approval or registration issued under this subchapter or subchapter A of this chapter.

(d) The representations, markings, and certifications subject to the prohibitions of paragraph (c) of this section include, but are not limited to—

(1) Specification identifications that include the letters “ICC,” “DOT,” “MC,” or “UN”;

(2) Exemption, approval, and registration numbers that include the letters “DOT,” “EX,” “M,” or “R”; and

(3) Test dates associated with specification, registration, approval, retest or exemption markings indicating compliance with a test or retest requirement of this subchapter, or an exemption, an approval or a registration issued under this subchapter or subchapter A of this chapter.

(e) When a person performs a function covered by or having an effect on a specification prescribed in Part 178, 179 or 180 of this subchapter, an approval issued under this subchapter, or an exemption issued under Subpart B of this chapter, that person must perform the function in accordance with that specification, approval, or exemption, as appropriate.

(f) No person shall, by marking or otherwise, represent that—

(1) A container or package for the transportation of hazardous materials is safe, certified, or in compliance with the requirements of this title unless it meets the requirements of all applicable regulations issued under the Federal hazardous material transportation law; or

(2) A hazardous material is present in a package, container, motor vehicle, rail car, aircraft, or vessel, if the hazardous material is not present.

(g) No person shall unlawfully alter, remove, deface, destroy, or otherwise tamper with—

(1) Any marking, label, placard, or description on a document required by the Federal hazardous material transportation law, or the regulations issued thereunder; or

(2) Any package, container, motor vehicle, rail car, aircraft, or vessel used for the transportation of hazardous materials.

(h) No person shall—

(1) Falsify or alter an exemption, approval, registration or other grant of authority issued under this subchapter or subchapter A of this chapter; or

(2) Offer a hazardous material for transportation or transport a hazardous material in commerce, or represent, mark, certify, or sell a packaging or container, under a false or altered exemption, approval, registration or other grant of authority issued under this subchapter or subchapter A of this chapter.

§171.3 Hazardous waste.

(a) No person may offer for transportation or transport a hazardous waste (as defined in §171.8 of this subchapter) in interstate or intrastate commerce except in accordance with the requirements of this subchapter.

(b) No person may accept for transportation, transport, or deliver a hazardous waste for which a manifest is required unless that person:

(1) Has marked each motor vehicle used to transport hazardous waste in accordance with §390.21 or §1058.2 of this title even though placards may not be required;

(2) Complies with the requirements for manifests set forth in §172.205 of this subchapter; and

(3) Delivers, as designated on the manifest by the generator, the entire quantity of the waste received from the generator or a transporter to:

(i) The designated facility or, if not possible, to the designated alternate facility;

(ii) The designated subsequent carrier; or

(iii) A designated place outside the United States.

Note: Federal law specifies penalties up to \$250,000 fine for an individual and \$500,000 for a company and 5 years imprisonment for the willful discharge of hazardous waste at other than designated facilities. 49 U.S.C. 5124.

(c) If a discharge of hazardous waste or other hazardous material occurs during transportation, and an official of a State or local government or a Federal agency, acting within the scope of his official responsibilities, determines that immediate removal of the waste is necessary to prevent further consequence, that official may authorize the removal of the waste without the preparation of a manifest. [NOTE: In such cases, EPA does not require carriers to have EPA identification numbers.]

Note 1: EPA requires shippers (generators) and carriers (transporters) of hazardous wastes to have identification numbers which must be displayed on hazardous waste manifests. See 40 CFR Parts 262 and 263. (Identification number application forms may be obtained from EPA regional offices.)

Note 2: In 40 CFR Part 263, the EPA sets forth requirements for the cleanup of releases of hazardous wastes.

§171.4 Marine pollutants

(a) Except as provided in paragraph (c) of this section, no person may offer for transportation or transport a marine pollutant, as defined in 171.8, in intrastate or interstate commerce except in accordance with the requirements of this subchapter.

(b) the requirements of this subchapter for the transportation of marine pollutants are based on the provisions of Annex III of the 1973 International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978 (MARPOL 73/78).

(c) Exceptions. Except when transported aboard vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicles, rail cars or aircraft.

§171.5 Temporary regulation; liquefied compressed gases in cargo tank motor vehicles.

(a) *Operation of new and existing cargo tank motor vehicles.* For a cargo tank motor vehicle used to transport liquefied compressed gases, other than carbon dioxide, §178.337-11(a)(1)(i) of this subchapter requires that each internal self-closing stop valve and excess flow valve must automatically close if any of its attachments are sheared off or if any attached hoses or piping are separated. Other regulations in Parts 173 and 180 of this subchapter reference this requirement or similar requirements in effect at the time of manufacture of a cargo tank motor vehicle. Notwithstanding this requirement, a DOT MC 330 or MC 331 specification cargo tank motor vehicle, or a non-specification cargo tank motor vehicle conforming to the requirements of §173.315(k) of this subchapter, may, without certification and demonstrated performance of the internal self-closing stop valve or the excess flow feature or self-closing stop valve of its emergency discharge control system, be represented for use and used to transport certain liquefied compressed gases under the following conditions:

(1) *Use.* The cargo tank motor vehicle must otherwise be operated, unloaded and attended in full conformance with all applicable requirements of this subchapter and the following additional requirements:

(i) Before initiating each transfer from a cargo tank motor vehicle to a receiving system, the person performing the function shall determine that each component of the discharge system (including hose) is of sound quality and free of leaks and that connections are secure. This determination shall be made after the pressure in the discharge system has reached no less than equilibrium with the pressure in the cargo tank.

(ii) Prior to commencing transfer using a new or repaired transfer hose or a modified hose assembly for the first time, the hose assembly must be subjected to a pressure test. The pressure test must be performed at no less than 120 percent of the design pressure or maximum allowable working pressure (MAWP) marked on the cargo tank motor vehicle, or the pressure the hose is expected to be subjected to during product transfer, whichever is greater. This test must include all hose and hose fittings arranged in the configuration to be employed during transfer operations. A hose or associated equipment that

shows signs of leakage, significant bulging, or other defects, may not be used. Where hoses are used to transfer liquefied compressed gases, a procedure must be instituted to ensure that hose assemblies are maintained at a level of integrity suited to each hazardous material. An acceptable procedure for maintenance, testing and inspection of hoses is outlined in publication RMA/IP-11-2, "Manual for Maintenance, Testing and Inspection of Hose", 1989 edition, published by the Rubber Manufacturers Association, 1400 K Street, N.W., Washington, DC 20005.

(iii) If there is an unintentional release of lading to the environment during transfer, the internal self-closing stop valve shall be promptly activated, and the qualified person unloading the cargo tank motor vehicle shall promptly shut down all motive and auxiliary power equipment. Prompt activation of the internal self-closing stop valve may be accomplished through:

(A) Compliance with §178.337-11(a)(1)(i) of this subchapter; or

(B) A qualified person positioned within arm's reach of a mechanical means of closure of the internal self-closing stop valve at all times the internal self-closing stop valve is open; except, that person may be away from the mechanical means only for the short duration necessary to engage or disengage the motor vehicle power take-off or other mechanical, electrical, or hydraulic means used to energize the pump and other components of the cargo tank motor vehicle's discharge system; or

(C) A fully operational remote-controlled system capable of stopping the transfer of lading by operation of a transmitter carried by a qualified person attending unloading of the cargo tank motor vehicle. Where the means for closure of the internal self-closing stop valve includes a remote-controlled system, the attendance requirements of §177.834(i)(3) of this subchapter are satisfied when a qualified person:

(1) Is carrying a radio transmitter that can activate the closure of the internal self-closing stop valve;

(2) Remains within the operating range of the transmitter; and

(3) Is awake throughout the unloading process, and has an unobstructed view of the cargo tank at all times that the internal self-closing stop valve is open.

(iv) A cargo tank motor vehicle that has an emergency discharge system conforming to the requirements in §178.337-11(a)(1)(i) of this subchapter may be operated under the provisions of this paragraph (a)(1).

(v) A comprehensive written emergency operating procedure must be developed for all transfer operations and hazmat employees who perform unloading functions must be trained in its provisions. The emergency operating procedure must be prominently displayed in or on the cargo tank motor vehicle.

(vi) As required by §172.704 of this subchapter, each manufacturer, assembler, retester, motor carrier and other hazmat employer subject to the requirements of this section shall ensure that its hazmat employees are trained to properly perform these new function-specific requirements including the meaning of the marking specified in paragraph (b) of this section. The hazmat employer shall ensure that a record of the training is created, certified, and maintained as specified in §172.704(d) of this subchapter.

(2) *Continuing qualification.* An existing in-service cargo tank motor vehicle may continue to be marked and documented as required by Part 180 of this subchapter if the following statement is added to the Certificate of Compliance by the owner or operating motor carrier: "Emergency excess flow control performance not established for this unit."

(3) *New cargo tank motor vehicles.* A new (unused) cargo tank motor vehicle manufactured, marked and certified prior to March 1, 1999, may be marked and certified as conforming to specification MC 331 if it otherwise meets all requirements of the specification and the following statement is added to the certification document required by §178.337-18 of this subchapter: "Emergency excess flow control performance not established for this unit."

(b) *Marking.* The following marking must be displayed on a cargo tank motor vehicle used or represented for use under this section:

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49 CFR 171.5**

(1) The letters must be white and the background black.

(2) The letters must be at least 1.5cm in height.

(3) The marking must be 6cm x 15cm.

(c) Requirements of this section are applicable to a cargo tank motor vehicle used to transport liquefied compressed gases, other than carbon dioxide, from August 16, 1997 through July 1, 1999.

§171.6 Control numbers under the Paperwork Reduction Act.

(a) *Purpose and scope.* This section collects and displays the control numbers assigned to the HMR collections of information by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995. This section complies with the requirements of 5 CFR 1320.7(f), 1320.12, 1320.13 and 1320.14 (OMB regulations implementing the Paperwork Reduction Act of 1995) for the display of control numbers assigned by OMB to collections of information of the HMR.

(b) *OMB control numbers.* The table in paragraph (b)(2) of this section sets forth the control numbers assigned to collection of information in the HMR by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995.

(1) Column 1 lists the OMB control number assigned to the HMR collections of information. Column 2 contains the Report Title of the approved collection of information. Column 3 lists the part(s) or section(s) in 49 CFR identified or described in the collection of information.

(2) *Table.*

Current OMB control No.	Title	Title 49 CFR part or section where identified and described
2137-0014	Cargo Tank Specification Requirements.	§§107.503, 107.504, 178.320, 178.337, 178.338, 178.345, 178.346, 178.347, 178.348, 180.409, 180.417.
2137-0018	Inspection and Testing of Portable Tank and IBC's.	§§173.24, 173.32, 173.32a, 173.32b, 173.32(b)(e), 173.32c, 178.3, 178.270, 178.271, 178.272, 178.245, 178.255, 178.245-1(a), 178.255-1, 178.245-6, 178.702, 178.801, 178.810, 180.352, 178.813, 178.703.
2137-0022	Recordkeeping and information Collection for Cylinders.	§§173.34, 173.302(e), 173.303(d).
2137-0034	Hazardous Materials Shipping Papers.	Part 172, §§173.7(a)(1), 173.22(a)(1), 173.56(b)(1), (d)(1), (e)(2), 173.150(f)(3)(i), 174.24, 174.26(b) 174.114, 175.30, 175.35, 175.703, 176.9, 176.24, 176.27, 176.30, 176.31, 176.36, 176.89, 176.90, 176.95, 177.817.
2137-0039	Hazardous Materials Incident Report.	§§171.15, 171.16.
2137-0051	Rulemaking and Exemption Petitions.	Part 107, Subpart B, §§106.31, 106.33, 107.3, 107.5, 107.7, 107.103, 107.105, 107.107, 107.109, 107.113, 107.117, 107.121, 107.123, 107.125, 107.201, 107.202, 107.203, 107.205, 107.209, 107.211, 107.215, 107.217, 107.219, 107.221, 107.223.
2137-0510	RAM Transportation Requirements	§§173.22(c), (d), 173.411, 173.415(a), 173.416(b), 173.417(a)(5), (b)(3), (4), 173.457(b), 173.471 (a), (d), (f), 173.472, 173.473 (a), (d), 173.476 (a), (b), (e), 173.477, 173.478(a).
2137-0542	Cryogenic Liquids Requirements.	§§173.33(d)(1)(ii), 177.816, 177.840.
2137-0557	Approvals for Hazardous Materials.	§§107.401, 107.402, 107.403, 107.404, 107.405, 172.101(l)(2), 172.102(c)(B69), 173.2a(c)(4), 173.4(a)(11), 173.7(a)(1), 173.21(f)(3)(h)(2)(i), 173.24(e)(3)(iii), 173.51(a), (b), 173.56(a)(2), (b)(1),

Current OMB control No.	Title	Title 49 CFR part or section where identified and described
		(2), (4), (c), (f), (g), (i), (j)(3), 173.124(a)(1)(iii)(B), (a)(2)(iii)(D), 173.128(d), 173.159(f), 173.166, 173.171(a), (c), 173.185(d)(9), (ii), (iii), i, 173.214, 173.224(d) 173.225(b)(4), (c), 173.245(a)(b), 173.300a, 173.300b, 173.305(c)(1), 173.315(i)(12), 173.334(d), 173.340(a), (b), (c)(4), 176.340(c), 177.806(a)(1), 178.36-3, 178.37-3, 178.38-3, 178.39-3, 178.42-3, 178.44-3, 178.45-3, 178.46-3, 178.50-3, 178.51-3, 178.53-3, 178.55-3, 178.56-3, 178.57-3, 178.58-3, 178.59-3, 178.60-3, 178.61-3(a), 178.65-3, 178.68-3, 178.270-3(f), 178.270-13(d), 178.601(e)(g)(7), (h), (k), 178.603(b), 178.604(b)(2), 178.605(b), 178.606(b), (c), 178.608(b)(5), 178.801(e)(2), (h), (i), 178.813(c).
2137-0559	Rail Carriers and Tank Car Tank Requirements.	§§173.10(b)(1), 173.31(a)(2), 173.247(a), 173.31(b)(6)(ii) 174.9, 174.20(b), 174.50, 174.61, 172.102: SP: B-45, B-46, B-55, B-61, B-69, B-77, B-78, B-81, 174.63(d), §§174.81, Table Note b, 174.104(c), (e), (f), 174.114, 174.204(a)(1), 179.3, 179.5 179.7(b)(2), (5)(d), 179.22, 180.505, 180.509, 180.515, 180.517(a)(b), 180.519(d).
2137-0572	Testing Requirements for Packaging.	§§178.2(c), 178.601(1).
2137-0575	Bulk Packaging Marking Requirements.	§§172.302, 172.332, 172.336.
2137-0582	Container Certification Statement.	§§176.172, 176.27(c).
2137-0586	Hazardous Materials Public Sector Training and Planning Grants.	Part 110
2137-0595	Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service.	§§178.337-11(a)(1)(i).

§171.7 Reference material.

(a) *Matter incorporated by reference—*

(1) *General.* There is incorporated, by reference in Parts 170-189 of this subchapter, matter referred to that is not specifically set forth. This matter is hereby made a part of the regulations in Parts 170-189 of this subchapter. The matter subject to change is incorporated only as it is in effect on the date of issuance of the regulation referring to that matter. The material listed in paragraph (a)(3) has been approved for incorporation by reference by the Director of the Federal Register. Material is incorporated as it exists on the date of the approval and a notice of any change in the material will be published in the

Federal Register. Matters referenced by footnote are included as part of the regulations of this subchapter.

(2) *Accessibility of materials.* All incorporated matter is available for inspection at:

(i) The Dockets Branch, Rm. 8419, Nassif Bldg., 400 7th St. S.W., Washington, DC 20590; and

(ii) The Office of the Federal Register, Rm. 8401, 1100 L St. N.W., Washington, DC.

(3) *Table of material incorporated by reference.* The following Table sets forth material incorporated by reference. The first column lists the name and address of the organization from which the material is available and the name of the material. The second column lists the section(s) of this subchapter, other than §171.7, in which the matter is referenced. The second column is presented for information only and may not be all inclusive.

Source and name of material	49 CFR reference
<i>The Aluminum Association</i> , 420 Lexington Ave., New York, NY 10017	
Aluminum Standards and Data, Seventh Edition, June 1982	172.102; 178.46 and 178.65
<i>American National Standards Institute, Inc.</i> , 1430 Broadway, New York, NY 10018	
ANSI/ASHRAE 15-94, Safety Code for Mechanical Refrigeration	173.306
ANSI B16.5-77, Steel Pipe Flanges, Flanged Fittings	178.345; 178.360
ANSI N14.1 Standard for Packaging of Uranium Hexafluoride for Transport, 1971, 1982, 1987 and 1990 Editions.	173.417; 173.420
<i>American Pyrotechnics Association (APA)</i> , P.O. Box 213, Chestertown, MD 21620	
APA Standard 87-1, Standard for Construction and Approval for Transportation of Fireworks and Novelties, April 1993 Edition.	173.56
<i>American Society of Mechanical Engineers</i> , United Engineering Center, 354 47th St., New York, NY 10017	
ASME Code, Sections II (Parts A and B), V, VII (Division 1), and IX of 1992 Edition of American Society of Mechanical Engineers Boiler and Pressure Vessel Code and Addenda through December 31, 1993.	173.32; 173.306; 173.315; 173.318; 173.420; 178.245; 178.255; 178.270; 178.271; 178.272; 178.337; 178.338; 178.345; 178.346; 178.347; 178.348; 179.400; 180.407; 180.417
ASME Code, Section V (FR Nondestructive Examination), 1977	180.407
ASME Code, Section IX (FR Welding and Brazing Qualification), 1977 and Addendum (1979)	178.245; 178.270; 178.337; 178.338
<i>American Society for Testing and Materials</i> , 100 Barr Harbor Drive, West Conshohocken, PA 19428	
Noncurrent ASTM Standards are available from: Engineering Societies Library, 354 E. 47th St., New York, NY 10017	
ASTM A 20/A 20M-93a Standard Specification for General Requirements for Steel Plates for Pressure Vessels	178.337-2; 179.102-4; 179.102-17
ASTM A 47-68 Malleable Iron Castings	179.200
ASTM A 240/A 240M-94b Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels	178.57; 178.358-5; 179.100-7; 179.100-10; 179.102-1; 179.102-4; 179.102-17; 179.200-7; 179.201-5; 179.220-7; 179.400-5
ASTM A 242-81 Standard Specification for High-Strength Low-Alloy Structural Steel	179.100
ASTM A 262-93a Standard Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels	179.100-7; 179.200-7; 179.201-4
ASTM A 300-58 Steel Plates for Pressure Vessels for Service at Low Temperatures	178.337

Source and name of material	49 CFR reference
ASTM A 302/A 302M-93 Standard Specification for Pressure Vessel Plates, Alloy Steel, Manganese-Molybdenum and Manganese-Molybdenum Nickel	179.100-7; 179.200-7; 179.220-7
ASTM A 333-67 Seamless and Welded Steel Pipe for Low-Temperature Service	178.45
ASTM A 366/A 366M-91 (1993)e1 Standard Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality	178.601
ASTM A 370-94 Standard Test Methods and Definitions for Mechanical Testing of Steel Products	179.102-1; 179.102-4; 179.102-17
ASTM A 388-67 Ultrasonic Testing and Inspection of Heavy Steel Forging	178.45
ASTM A 441-81 Standard Specification for High-Strength Low-Alloy Structural Manganese Vanadium Steel	178.338
ASTM A 514-81 Standard Specification for High-Yield Strength Quenched and Tempered Alloy Steel Plate, Suitable for Welding	178.338
ASTM A 516/A 516M-90 Standard Specification for Pressure Vessel Plates, Carbon Steel, for Moderate and Lower-Temperature Service	178.337-2; 179.100-7; 179.100-20; 179.102-1; 179.102-2; 179.102-4; 179.102-17; 179.200-7; 179.220-7
ASTM A 537/A 537M-91 Standard Specification for Pressure Vessel Plates, Heat-Treated, Carbon-Manganese-Silicon Steel	179.100-7; 179.102-4; 179.102-17
ASTM A 568/A 568M-95 Standard Specification for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for	178.601
ASTM A 572-82 Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Steels of Structural Quality	178.338; 179.100
ASTM A 588-81 Standard Specification for High-Strength Low-Alloy Structural Steel with 50 Ksi Minimum Yield Point to 4 in. Thick	179.100; 178.338
ASTM A 606-75 Standard Specification for Steel Sheet and Strip Hot-Rolled and Cold-Rolled, High-Strength, Low Alloy, with Improved Atmospheric Corrosion Resistance, 1975 (Reapproved 1981)	178.338
ASTM A 612-72a High Strength Steel Plates for Pressure Vessels for Moderate and Lower Temperature Service	178.337
ASTM A 633-79a Standard Specification for Normalized High-Strength Low-Alloy Structural Steel, 1979 Edition	178.338
ASTM A 715-81 Standard Specification for Steel Sheet and Strip, Hot-Rolled, High-Strength, Low-Alloy with Improved Formability, 1981	178.338
ASTM B 90-69 Magnesium Alloy Sheet and Plate	178.251
ASTM B 162-93a Standard Specification for Nickel Plate, Sheet, and Strip	179.200-7
ASTM B 209-93 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate	179.100-7; 179.200-7; 179.220-7
ASTM B 557-84 Tension Testing Wrought and Cast Aluminum and Magnesium-Alloy Products	178.46; 178.251
ASTM B 580-79 Standard Specification for Anodic Oxide Coatings on Aluminum, 1979	173.316; 173.316
ASTM D 56-93 Standard Test Method for Flash Point by Tag Closed Tester	173.120

Source and name of material	49 CFR reference	Source and name of material	49 CFR reference
ASTM D 93-94 Standard Test Methods for Flash Point by Pensky-Martens Closed Tester	173.120	AAR Manual of Standards and Recommended Practices, Section C—Part III, Specifications for Tank Cars, Specification M-1002, September 1996	174.63; 179.6; 179.7; 179.12; 179.15; 179.16; 179.20; 179.22; 179.100; 179.101; 179.102; 179.103; 179.200; 179.201; 179.220; 179.300; 179.400; 180.509; 180.513; 180.515; 180.517
ASTM D 445-88 Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)	171.8		
ASTM 1200-88 Viscosity by Ford Viscosity Cup	171.8		
ASTM D 1838-64 Copper Strip Corrosion by Liquefied Petroleum (LP) Gases	173.315	AAR Manual of Standards and Recommended Practices, Section I, Specially Equipped Freight Car and Intermodal Equipment, 1988	174.55; 174.63
ASTM D 3278-95 Standard Test Methods for Flash Point of Liquids by Setaflash Closed-Cup Apparatus	173.120		
ASTM D 4359-90 Standard Test Method for Determining Whether a Material is a Liquid or a Solid	171.8	AAR Specifications for Design, Fabrication and Construction of Freight Cars, Volume 1, 1988	179.16
ASTM D 3828-93, Standard Test Methods for Flash Point by Small Scale Closed Tester	173.120	AAR Specification for Tank Cars, Specification M-1002, 1988	
ASTM D 4206-96 Standard Test Method for Sustained Burning of Liquid Mixtures Using the Small Scale Open-Cup Apparatus	173.120	<i>Chlorine Institute, Inc.</i> , 2001 L St. N.W., Ste. 506, Washington, DC 20036	
ASTM E 8-89 Tension Testing of Metallic Materials	178.36; 178.37; 178.38; 178.39; 178.44; 178.45; 178.50; 178.51; 178.53; 178.55; 178.56; 178.57; 178.58; 178.59; 178.60; 178.61; 178.68; 178.251	Type 1-1/2 JQ 225, Dwg. H51970, Revision D, April 5, 1989; or Type 1-1/2 JQ 225, Dwg. H50155, Revision F, April 4, 1989	173.315
ASTM E 23-60 Notched Bar Impact Testing of Metallic Materials	178.57; 179.400	Standard Chlorine Angle Valve Assembly, Dwg. 104-6, December 1, 1982	178.337-9
ASTM E 112-88 Standard Test Methods for Determining Average Grain Size	178.44	Excess Flow Valve with Removable Seat, Dwg. 101-6, September 1, 1973	178.337-11
ASTM E 290-92 Standard Test Method for Semi-Guided Bend Test for Ductility of Metallic Materials	178.46	Excess Flow Valve with Removable Basket, Dwg. 106-5, September 1, 1973	178.337-11
ASTM E 681-85 Standard Test Method for Concentration Limits of Flammability of Chemicals	173.115	Standards for Housing and Manway Covers for Steel Cargo Tanks, Dwg. 137-3, September 1, 1982	170.337-10
ASTM G 23-69 Standard Recommended Practice for Operating Light-and-Water Exposure Apparatus (Carbon-Arc Type) for Exposure of Nonmetallic Materials	172.407; 172.519	<i>Compressed Gas Association, Inc.</i> , 1725 Jefferson Davis Hwy., Arlington, VA 22202	
ASTM G 26-70 Standard Recommended Practice for Operating Light-and-Water Exposure Apparatus (Xenon-Arc-Type) for Exposure of Nonmetallic Materials	172.407, 172.519	CGA Pamphlet C-3, Standards for Welding and Brazing on Thinned Walled Containers, 1975	178.47; 178.50; 178.51; 178.53; 178.54; 178.56; 178.57; 178.58; 178.59; 178.60; 178.61; 178.65; 178.68
ASTM G 31-72 (Reapproved 1995) Standard Practice for Laboratory Immersion Corrosion Testing of Metals	173.137	CGA Pamphlet C-5, Cylinder Service Life — Seamless Steel High Pressure Cylinders, 1991	173.302
<i>American Water Works Association</i> , 1010 Vermont Ave. N.W., Ste. 810, Washington, DC 20005		CGA Pamphlet C-6, Standards for Visual Inspection of Steel Compressed Gas Cylinders, 1993	173.34; 180.519
AWWA Standard C207-55, Steel Pipe Flanges, 1955	178.360	CGA Pamphlet C-6.1, Standards for Visual Inspection of High Pressure Aluminum Compressed Gas Cylinders, 1995	173.34
<i>American Welding Society</i> , 550 N.W. Le Jeune Rd., Miami, FL 33126		CGA Pamphlet C-6.2, Guidelines for Visual Inspection and Requalification of Fiber Reinforced High Pressure Cylinders, 1988	173.34
AWS Code B 3.0, Standard Qualification Procedure; 1972 (FRB 3.0-41, rev. May 1973)	178.356	CGA Pamphlet C-6.3, Guidelines for Visual Inspection and Requalification of Low Pressure Aluminum Compressed Gas Cylinders, 1991	173.34
AWS Code D 1.0, Code for Welding in Building Construction (FR D 1.0-66)	178.356	CGA Pamphlet C-7, A Guide for the Preparation of Precautionary Markings for Compressed Gas Containers, appendix A, issued 1992 (6th Edition).	172.400a
<i>Association of American Railroads</i> , American Railroads Bldg., 50 F St. N.W., Washington, DC 20001		CGA Pamphlet C-8, Standard for Requalification of DOT-3HT Cylinder Design, 1985	173.34
AAR Manual of Standards and Recommended Practices, Section C—Part III, Specification for Tank Cars, Specification M-1002. September, 1992	173.31	CGA Pamphlet C-11, Recommended Practices for Inspection of Compressed Gas Cylinders at Time of Manufacture, 1993	178.35
		CGA Pamphlet C-12, Qualification Procedure for Acetylene Cylinder Design, 1994	173.34; 173.303; 178.59; 178.60

Source and name of material	49 CFR reference
CGA Pamphlet C-13, Guidelines for Periodic Visual Inspection and Requalification of Acetylene Cylinders, 1992	173.34; 173.303
CGA Pamphlet C-14, Procedures for Fire Testing of DOT Cylinder Pressure Relief Device Systems, 1979	173.34
CGA Pamphlet G-2.2, Tentative Standard Method for Determining Minimum of 0.2% Water in Anhydrous Ammonia 1985	173.315
CGA Pamphlet G-4.1, Cleaning Equipment for Oxygen Service, 1985	176.338
CGA Pamphlet S-1.1, Pressure Relief Device Standards — Part 1—Cylinders for Compressed Gases, 1994 (with the exception of paragraph 9.1.1.1).	173.34
CGA Pamphlet S-1.2, Safety Relief Device Standards Part 2—Cargo and Portable Tanks for Compressed Gases, 1980	173.315; 173.316
CGA Technical Bulletin TB-2, Guidelines for Inspection and Repair of MC-330 and MC-331 Cargo Tanks, 1980	180.413
<i>Department of Defense (DOD)</i> , 2461 Eisenhower Ave., Alexandria, VA 22331	
DOD TB 700-2, NAVSEAINST 8020.8; AFTO 11A-1-47; DLAR 8220.1: Explosives Hazard Classification Procedure, December 1989	173.56
<i>Department of Energy (USDOE)</i> , 100 Independence Ave. S.W., Washington, DC 20545	
USDOE publications available from: Superintendent of Documents, Government Printing Office (GPO) or The National Technical Information Service (NTIS).	
USDOE CAPE-1662 Revision 1, and Supplement 1, Civilian Application Program Engineering Drawings	178.356; 178.358
USDOE Material and Equipment Specification No. SP-9, Rev. 1, and Supplement Fire Resistant Phenolic Foam	178.356; 178.358
ORO-651—Uranium Hexafluoride; A Manual of Good Practices, Revision 6, 1991 edition	173.417
USDOE, KSS-471, November 30, 1986—Proposal for Modifications to U.S. Department of Transportation Specification 21PF-1, Fire and Shock Resistant Phenolic Foam—Insulated Metal Overpack.	178.358
<i>Fertilizer Institute</i> , 501 Second St. N.E., Washington, DC 20002	
Definition and Test Procedures for Ammonium Nitrate Fertilizer, August 1984	174.510
<i>General Services Administration</i> , Specification Office, Rm. 6662, 7th and D St. S.W., Washington, DC 20407	
Federal Specification RR-C-901C, Cylinders, Compressed Gas: High Pressure Steel DOT 3AA, and Aluminum Applications, January 15, 1981 (Superseding RR-C-901B, August 1, 1967)	172.302; 172.304; 172.336
<i>Health and Human Services Centers for Disease Control and Prevention</i> , 1600 Clifton Road N.E., Atlanta GA 30333	

Source and name of material	49 CFR reference
Also available from: Superintendent of Documents, Government Printing Office (GPO), HHS Publication No. (CDC) 93-8395, Biosafety in Microbiological and Biomedical Laboratories, 3rd Edition, May 1993, Section II	173.134
<i>Institute of Makers of Explosives</i> , 1120 19th St., Ste. 310, Washington, DC 20036-3605	
IME Safety Library Publication No. 22 (IME Standard 22), Recommendation for the Safe Transportation of Detonators in a Vehicle with Certain Other Explosive Materials, May 1993.	177.835
<i>International Atomic Energy Agency (IAEA)</i> , Wagramerstrasse 5, P.O. Box 100, A-1400, Vienna, Austria	
Also available from: Unipub Incorporated, P.O. Box 433, New York, NY 10016	
IAEA, Regulations for the Safe Transport of Radioactive Materials, Safety Series No. 6, 1985 Edition (As Amended 1990); Including 1985 Edition (Supplemented 1986 and 1988)	171.12
<i>International Civil Aviation Organization (ICAO)</i> , P.O. Box 400, Place de l'Aviation Internationale, 1000 Sherbrooke Street West, Montreal, Quebec, Canada H3A 2R2	
ICAO Technical Instructions available from: INTEREG, International Regulations, Publishing and Distribution Organization, P.O. Box 60105, Chicago, IL 60660	
Technical Instructions for the Safe Transport of Dangerous Goods by Air, DOC 9284-AN/905, 1997-1998 Edition	171.11; 172.401
<i>International Maritime Organization (IMO)</i> , 4 Albert Embankment, London, SE175R, United Kingdom	
or New York Nautical Instrument & Service Corporation, 140 W. Broadway, New York, NY 10013	
International Maritime Dangerous Goods (IMDG) Code, 1994 Consolidated Edition, as amended by Amendment 28 (1996) (English edition)	171.12, 172.401; 172.407; 173.21; 176.2; 176.5; 176.11; 176.27; 176.30
<i>International Organization for Standardization</i> , Case Postale 56, CH-1211, Geneve 20, Switzerland	
Also available from: ANSI, 1430 Broadway, New York, NY 10018	
ISO-82-1974(E) Steels Tensile Testing	178.270-3
ISO-2431-1984(E) Standard Cup Method	173.121
ISO 780-1985(E) Packaging-Pictorial Marking and Handling of Goods	172.312
ISO-535-1991(E) Paper and board—Determination of water absorptiveness—Cobb method	178.516
ISO 3036-1975(E) Board—Determination of puncture resistance	178.708
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
ISO/TR 4826-1979(E) Sealed radioactive sources—Leak test methods	173.469

Source and name of material	49 CFR reference
ISO 2919-1980(E) Sealed radioactive sources—Classification	173.469
ISO 1496-3-1995(E) Series 1 Freight Containers—Specification and Testing—Part 3: Tank Containers for Liquids, Gases and Pressurized Dry Bulk	173.411
<i>National Board of Boiler and Pressure Vessel Inspectors</i> , 1055 Crupper Ave., Columbus, OH 43229	
National Board Inspection Code, A Manual for Boiler and Pressure Vessel Inspectors, NB-23, 1992 Edition	180.413
<i>National Fire Protection Association</i> , Batterymarch Park, Quincy, MA 02269	
NFPA Pamphlet No. 58—Standard for the Storage and Handling of Liquefied Petroleum Gases, 1979	173.315
<i>National Institute of Standards and Technology</i> , Department of Commerce, 5285 Port Royal Rd., Springfield, VA 22151	
USDC, NBS Handbook H-28; 178.46 (1957), 1957 Handbook of Screw-Thread Standards for Federal Services, Part II, December 1966 Edition	178.45
<i>National Motor Freight Traffic Association, Inc.</i> , Agent 1616 P St., N.W., Washington, DC 20036	
National Motor Freight Classification NMF 100-I, 1982	177.841
<i>Organization for Economic Cooperation and Development (OECD)</i>	
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
<i>Transport Canada</i> , TDG Canadian Government Publishing Center, Supply and Services, Canada, Ottawa, Ontario, Canada K1A 059	
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, SOR/94-264 (English edition), SOR/95-241, and SOR/95-547	171.12a; 172.401; 172.502; 174.11
<i>Truck Trailer Manufacturers Association</i> , 1020 Princess St., Alexandria, VA 22314	
TTMA RP No. 61-94, Performance of Manhole and/or Fill Opening Assemblies on MC 306 and DOT 406 Cargo Tanks, December 28, 1994 Edition	180.405
TTMA RP No. 81, Performance of Spring Loaded Pressure Relief Valves on MC 306, MC 307, and MC 312 Tanks, May 24, 1989 Edition	178.345-10
TTMA TB No. 107, Procedure for Testing Inservice, Unmarked, and/or Uncertified MC 306 Type Cargo, Tank Manhole Covers, May 24, 1989 Edition	180.405
<i>United Nations</i> , United Nations Sales Section, New York, NY 10017	
UN Recommendations on the Transport of Dangerous Goods, Ninth Revised Edition (1995)	172.401; 172.407; 172.519

Source and name of material	49 CFR reference
UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Second Revised Edition, 1995	173.21, 173.56 173.57, 173.124 173.128, 173.166, 173.185

(b) *List of informational materials not requiring incorporation by reference.* The materials listed in this paragraph do not require approval for incorporation by reference and are included for informational purposes.
These materials may be used as noted in those sections in which the material is referenced.

Source and name of material	49 CFR reference
<i>Association of American Railroads</i> , American Railroads Building, 50 F St. N.W., Washington, DC 20001	
AAR Catalog Nos. SE60CHT; SE60CC; SE60CHTE; SE60CE; SE60DC; SE60DE	179.14
AAR Catalog Nos. SE67CC; SE67CE; SE67BHT; SE67BC; SE67BHTE; SE67BE	179.14
AAR Catalog Nos. SE68BHT; SE68BC; SE68BHTE, SE68BE	179.14
AAR Catalog Nos. SE69AHTE; SE69AE	179.14
AAR Catalog Nos. SF70CHT; SF70CC; SF70CHTE; SF70CE	179.14
AAR Catalog Nos. SF73AC; SF73AE; SF73AHT; SF73AHTE	179.14
AAR Catalog Nos. SF79CHT; SF79CC; SF79CHTE; SF79CE	179.14
<i>Bureau of Explosives</i> , Hazardous Materials Systems (BOE), Association of American Railroads, American Railroads Building, 50 F St. N.W., Washington, DC 20001	
Fetterley's Formula (The Determination of the Relief Dimensions for Safety Valves on Containers in which Liquefied gas is charged and when the exterior surface of the container is exposed to a temperature of 1,200°F)	173.315
Pamphlet 6, Illustrating Methods for Loading and Bracing Carload and Less-Than-Carload Shipments of Explosives and Other Dangerous Articles, 1962	174.55; 174.101; 174.112; 174.115; 174.290
Pamphlet 6A (includes Appendix No. 1, October 1944 and Appendix 2, December 1945), Illustrating Methods for Loading and Bracing Carload and Less-Than-Carload Shipments of Loaded Projectiles, Loaded Bombs, etc., 1943.	174.101; 174.290
Pamphlet 6C, Illustrating Methods for Loading and Bracing Trailers and Less-Than-Trailer Shipments of Explosives and Other Dangerous Articles Via Trailer-On-Flatcar (TOFC) or Container on-Flatcar (COFC), 1985	174.55; 174.63; 174.101; 174.112; 174.115
Emergency Handling of Hazardous Materials in Surface Transportation, 1989	171.7
<i>National Association of Corrosion Engineers</i> , 1440 South Creek, Houston, TX 77084	
NACE Standard TM-01-69, Test Method Laboratory Corrosion Testing of Metals for the Process Industries, 1969	173.136
<i>Society of Plastics Industries, Inc.</i> , Organic Peroxide Producers Safety Division, 1275 K St. N.W., Ste. 400, Washington, DC 20005	
Self Accelerating Decomposition Temperature Test, 1972	173.21

§171.8 Definitions and abbreviations.

In this subchapter,

Aerosol means any non-refillable metal receptacle containing a gas compressed, liquefied or dissolved under pressure, the sole purpose of which is to

expel a nonpoisonous (other than a Division 6.1 Packing Group III material) liquid, paste, or powder and fitted with a self-closing release device allowing the contents to be ejected by the gas.

Agricultural product means a hazardous material, other than a hazardous waste, whose end use directly supports the production of an agricultural commodity including, but not limited to a fertilizer, pesticide, soil amendment or fuel. An *agricultural product* is limited to a material in Class 3, 8 or 9, Division 2.1, 2.2, 5.1, or 6.1, or an ORM-D material.

Approval means a written authorization, including a competent authority approval, from the Associate Administrator to perform a function for which prior authorization by the Associate Administrator is required under subchapter C of this chapter.

Approved means approval issued or recognized by the Department unless otherwise specifically indicated in this subchapter.

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

Atmospheric gases means air, nitrogen, oxygen, argon, krypton, neon and xenon.

Authorized Inspector means an Inspector who is currently commissioned by the National Board of Boiler and Pressure Vessel Inspectors and employed as an Inspector by an Authorized Inspection Agency.

Authorized Inspection Agency means: (1) A jurisdiction which has adopted and administers one or more sections of the ASME Boiler and Pressure Vessel Code as a legal requirement and has a representative serving as a member of the ASME Conference Committee; or (2) an insurance company which has been licensed or registered by the appropriate authority of a State of the United States or a Province of Canada to underwrite boiler and pressure vessel insurance in such State or Province.

Bag means a flexible packaging made of paper, plastic film, textiles, woven material or other similar materials.

Bar means 1 BAR = 100 kPa (14.5 psi)

Barge means a non-selfpropelled vessel.

Bottle means an inner packaging having a neck of relatively smaller cross section than the body and an opening capable of holding a closure for retention of the contents.

Bottom shell means that portion of a tank car tank surface, excluding the head ends of the tank car tank, that lies within two feet, measured circumferentially, of the bottom longitudinal center line of the tank car tank.

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.

Break-bulk means packages of hazardous materials that are handled individually, palletized, or unitized for purposes of transportation as opposed to bulk and containerized freight.

Btu means British thermal unit.

Bulk packaging means a packaging, other than a vessel or a barge, including a transport vehicle or freight container, in which hazardous materials are loaded with no intermediate form of containment and which has:

(1) A maximum capacity greater than 450 L (119 gallons) as a receptacle for a liquid;

(2) A maximum net mass greater than 400 kg (882 pounds) and a maximum capacity greater than 450 L (119 gallons) as a receptacle for a solid; or

(3) A water capacity greater than 454 kg (1000 pounds) as a receptacle for a gas as defined in §173.115 of this subchapter.

Bureau of Explosives means the Bureau of Explosives (B of E) of the Association of American Railroads.

C means Celsius or Centigrade.

Captain of the Port (COPT) means the officer of the Coast Guard, under the command of a District Commander, so designated by the Commandant for the purpose of giving immediate direction to Coast Guard law enforcement activities within an assigned area. As used in this subchapter, the term "Captain of the Port" includes an authorized representative of the Captain of the Port.

Carfloat means a vessel that operates on a short run on an irregular basis and serves one or more points in a port area as an extension of a rail line or highway over water, and does not operate in ocean, coastwise, or ferry service.

Cargo aircraft only means an aircraft that is used to transport cargo and is not engaged in carrying passengers. For purposes of this subchapter, the terms "cargo aircraft only", "cargo-only aircraft" and "cargo aircraft" have the same meaning.

Cargo tank means a bulk packaging which:

(1) Is a tank intended primarily for the carriage of liquids or gases and includes appurtenances, reinforcements, fittings, and closures (for "tank", see 49 CFR 178.345-1(c), 178.337-1, or 178.338-1, as applicable);

(2) Is permanently attached to or forms a part of a motor vehicle, or is not permanently attached to a motor vehicle but which, by reason of its size, construction or attachment to a motor vehicle is loaded or unloaded without being removed from the motor vehicle; and

(3) Is not fabricated under a specification for cylinders, portable tanks, tank cars, or multi-unit tank car tanks.

Cargo tank motor vehicle means a motor vehicle with one or more cargo tanks permanently attached to or forming an integral part of the motor vehicle.

Cargo vessel means:

(1) Any vessel other than a passenger vessel; and

(2) Any ferry being operated under authority of a change of character certificate issued by a Coast Guard Officer-in-Charge, Marine Inspection.

Carrier means a person engaged in the transportation of passengers or property by:

(1) Land or water, as a common, contract, or private carrier, or

(2) Civil aircraft.

CC means closed-cup.

Character of vessel means the type of service in which the vessel is engaged at the time of carriage of a hazardous material.

Class means hazard class. See "hazard class".

Class 1. See §173.50 of this subchapter.

Class 2. See §173.115 of this subchapter.

Class 3. See §173.120 of this subchapter.

Class 4. See §173.124 of this subchapter.

Class 5. See §173.128 of this subchapter.

Class 6. See §173.132 of this subchapter.

Class 7. See §173.403 of this subchapter.

Class 8. See §173.136 of this subchapter.

Class 9. See §173.140 of this subchapter.

Closure means a device which closes an opening in a receptacle.

COFC means container-on-flat-car.

Combination packaging means a combination of packaging, for transport purposes, consisting of one or more inner packagings secured in a non-bulk outer packaging. It does not include a composite packaging.

Combustible liquid. See §173.120 of this subchapter.

Compatibility group letter means a designated alphabetical letter used to categorize different types of explosive substances and articles for purposes of stowage and segregation. See §173.52 of this subchapter.

Competent Authority means a national agency responsible under its national law for the control or regulation of a particular aspect of the transportation of hazardous materials (dangerous goods). The term "Appropriate Authority", as used in the ICAO Technical Instructions, has the same meaning as "Competent Authority". For purposes of this subchapter, the Associate Administrator for Hazardous Materials Safety is the Competent Authority for the United States.

Composite packaging means a packaging consisting of an outer packaging and an inner receptacle, so constructed that the inner receptacle and the outer packaging form an integral packaging. Once assembled it remains thereafter an integrated single unit; it is filled, stored, shipped and emptied as such.

Compressed gas. See §173.115 of this subchapter.

Consumer commodity means a material that is packaged and distributed in a form intended or suitable for sale through retail sales agencies or instrumentalities for consumption by individuals for purposes of personal care or household use. This term also includes drugs and medicines.

Containership means a cargo vessel designed and constructed to transport, within specifically designed cells, portable tanks and freight containers which are lifted on and off with their contents intact.

Corrosive material. See §173.136 of this subchapter.

Crate means an outer packaging with incomplete surfaces.

Crewmember means a person assigned to perform duty in an aircraft during flight time.

Cryogenic liquid See §173.115(g) of this subchapter.

Cylinder means a pressure vessel designed for pressures higher than 40 psia and having a circular cross section. It does not include a portable tank, multi-unit tank car tank, cargo tank, or tank car.

Dangerous when wet material. See §173.124 of this subchapter.

Design Certifying Engineer means a person registered with the Department in accordance with subpart F of part 107 of this chapter who has the knowledge and ability to perform stress analysis of pressure vessels and to otherwise determine whether a cargo tank design and construction meets the applicable DOT specification. In addition, Design Certifying Engineer means a person who meets, at a minimum, any one of the following:

(1) Has an engineering degree and one year of work experience in cargo tank structural or mechanical design.

(2) Is currently registered as a professional engineer by the appropriate authority of a State of the United States or a Province of Canada.

(3) Has at least three years experience in performing the duties of a Design Certifying Engineer by September 1, 1991, and was registered with the Department by December 31, 1995.

Designated facility means a hazardous waste treatment, storage, or disposal facility that has been designated on the manifest by the generator.

District Commander means the District Commander of the Coast Guard, or his authorized representative, who has jurisdiction in the particular geographical area.

Division means a subdivision of a hazard class.

DOD means the U.S. Department of Defense.

Domestic transportation means transportation between places within the United States other than through a foreign country.

Drum means a flat-ended or convex-ended cylindrical packaging made of metal, fiberboard, plastic, plywood, or other suitable materials. This definition also includes packagings of other shapes made of metal or plastic (e.g., round taper-necked packagings or pail-shaped packagings) but does not include cylinders, jerricans, wooden barrels or bulk packagings.

Elevated temperature material means a material which, when offered for transportation or transported in a bulk packaging:

(1) Is in a liquid phase and at a temperature at or above 100°C (212°F);

(2) Is 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; or

(3) Is in a solid phase and at a temperature at or above 240°C (464°F).

Engine means a locomotive propelled by any form of energy and used by a railroad.

EPA means U.S. Environmental Protection Agency.

Etiologic agent See §173.134 of this subchapter.

EX number means a number, preceded by the prefix "EX-", which is assigned by the Associate Administrator for Hazardous Materials Safety to identify an explosive which has been approved. See §173.56 of this subchapter.

Exemption means a document issued under the authority of 49 U.S.C. 5117 by the Associate Administrator that authorizes a person to perform a function that is not otherwise authorized under this subchapter, subchapter C, or other regulations issued under 49 U.S.C. 5101-5127 (e.g., Federal Highway Administration routing).

Explosive See §173.50 of this subchapter.

F means degree Fahrenheit.

Farmer means a person engaged in the production or raising of crops, poultry, or livestock.

Federal hazardous material transportation law means 49 U.S.C. 5101 *et seq.*

Ferry vessel means a vessel which is limited in its use to the carriage of deck passengers or vehicles or both, operates on a short run on a frequent schedule between two points over the most direct water route, other than in ocean or coastwise service, and is offered as a public service of a type normally attributed to a bridge or tunnel.

Filling density has the following meanings:

(1) For compressed gases in cylinders, see §173.304(a)(2) Table Note 1.

(2) For compressed gases in tank cars, see §173.314(c) Table Note 1.

(3) For compressed gases in cargo tanks and portable tanks, see §173.315(a) Table Note 1.

(4) For cryogenic liquids in cylinders, except hydrogen, see §173.316(c)(1).

(5) For hydrogen, cryogenic liquid in cylinders, see §173.316(c)(3) Table Note 1.

(6) For cryogenic liquids in cargo tanks, see §173.318(f)(1).

(7) For cryogenic liquids in tank cars, see §173.319(d)(1).

Flammable gas. See §173.115 of this subchapter.

Flammable liquid. See §173.120 of this subchapter.

Flammable solid. See §173.124 of this subchapter.

Flash point See §173.120 of this subchapter.

Freight container means a reusable container having a volume of 64 cubic feet or more, designed and constructed to permit being lifted with its contents intact and intended primarily for containment of packages (in unit form) during transportation.

Fuel tank means a tank other than a cargo tank, used to transport flammable or combustible liquid, or compressed gas for the purpose of supplying fuel for propulsion of the transport vehicle to which it is attached, or for the operation of other equipment on the transport vehicle.

Fumigated lading. See §§172.302(g) and 173.9.

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).

General public means, for purposes of subpart I of part 172, and subpart I of part 173 of this subchapter, any person other than an occupationally exposed hazmat employee.

Gross weight or *gross mass* means the weight of a packaging plus the weight of its contents.

Hazard class means the category of hazard assigned to a hazardous material under the definitional criteria of Part 173 of this subchapter and the provisions of the §172.101 Table. A material may meet the defining criteria for more than one hazard class but is assigned to only one hazard class.

Hazard zone means one of four levels of hazard (Hazard Zones A through D) assigned to gases, as specified in §173.116(a) of this subchapter, and one of two levels of hazards (Hazard Zones A and B) assigned to liquids that are poisonous by inhalation, as specified in §173.133(a) of this subchapter. A hazard zone is based on the LC50 value for acute inhalation toxicity of gases and vapors, as specified in §173.133(a).

Hazardous material means a substance or material, which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated. The term includes hazardous substances, hazardous wastes, marine pollutants, and elevated temperature materials as defined in this section, materials designated as hazardous under the provisions of §172.101 of this subchapter, and materials that meet the defining criteria for hazard classes and divisions in part 173 of this subchapter.

Hazardous substance for the purposes of this subchapter, means a material, including its mixtures and solutions, that—

(1) Is listed in the Appendix A to §172.101 of this subchapter;

(2) Is in a quantity, in one package, which equals or exceeds the reportable quantity (RQ) listed in the Appendix A to §172.101 of this subchapter; and

(3) When in a mixture or solution—

(i) For radionuclides, conforms to paragraph 6 of the Appendix A to §172.101.

(ii) For other than radionuclides is in a concentration by weight which equals or exceeds the concentration corresponding to the RQ of the material, as shown in the following table:

RQ pounds (kilograms)	Concentration by weight	
	Percent	PPM
5000 (2270)	10	2100,000
1000 (454)	2	20,000
100 (45.4)	0.2	2,000
10 (4.54)	0.02	200
1 (0.454)	0.002	20

The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance in Appendix A to §172.101 of this subchapter, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

Hazardous waste, for the purposes of this chapter, means any material that is subject to the Hazardous Waste Manifest Requirements of the U.S. Environmental Protection Agency specified in 40 CFR Part 262.

Hazmat employee means a person who is employed by a hazmat employer and who in the course of employment directly affects hazardous materials transportation safety. This term includes an owner-operator of a motor vehicle which transports hazardous materials in commerce. This term includes an individual, including a self-employed individual, employed by a hazmat employer who, during the course of employment:

(1) Loads, unloads, or handles hazardous materials;

(2) Manufactures, tests, reconditions, repairs, modifies, marks, or otherwise represents containers, drums, or packagings as qualified for use in the transportation of hazardous materials;

(3) Prepares hazardous materials for transportation;

(4) Is responsible for safety of transporting hazardous materials; or

(5) Operates a vehicle used to transport hazardous materials.

Hazmat employer means a person who uses one or more of its employees in connection with: transporting hazardous materials in commerce; causing hazardous materials to be transported or shipped in commerce; or representing, marking, certifying, selling, offering, manufacturing, reconditioning, testing, repairing, or modifying containers, drums, or packagings as qualified for use in the transportation of hazardous materials. This term includes an owner-operator of a motor vehicle which transports hazardous materials in commerce. This term also includes any department, agency, or instrumentality of the United States, a State, a political subdivision of a State, or an Indian tribe engaged in an activity described in the first sentence of this definition.

Hermetically sealed means closed by fusion, gasketing, crimping, or equivalent means so that no gas or vapor can enter or escape.

IAEA means International Atomic Energy Agency.

IATA means International Air Transport Association.

ICAO means International Civil Aviation Organization.

IMO means International Maritime Organization.

Infectious substance (etiologic agent). See §173.134 of this subchapter.

Inner packaging means a packaging for which an outer packaging is required for transport. It does not include the inner receptacle of a composite packaging.

Inner receptacle means a receptacle which requires an outer packaging in order to perform its containment function. The inner receptacle may be an inner packaging of a combination packaging or the inner receptacle of a composite packaging.

Intermediate bulk container (IBC) means a rigid or flexible portable packaging, other than a cylinder or portable tank, which is designed for mechanical handling. Standards for intermediate bulk containers manufactured in the United States are set forth in subparts N and O of part 178 of this subchapter.

Intermediate packaging means a packaging which encloses an inner packaging or article and is itself enclosed in an outer packaging.

Intermodal container means a freight container designed and constructed to permit it to be used interchangeably in two or more modes of transport.

Intermodal portable tank or *IM portable tank* means a specific class of portable tanks designed primarily for international intermodal use.

International transportation means transportation—

- (1) Between any place in the United States and any place in a foreign country;
- (2) Between places in the United States through a foreign country; or
- (3) Between places in one or more foreign countries through the United States.

Irritating material. See §173.132(a)(2) of this subchapter.

Jerrican means a metal or plastic packaging of rectangular or polygonal cross-section.

Limited quantity, when specified as such in a section applicable to a particular material, means the maximum amount of a hazardous material for which there is a specific labeling or packaging exception.

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".

Liquid phase means a material that meets the definition of "liquid" when elevated at the higher of the temperature at which it is offered for transportation or at which it is transported, not at the 37.8°C (100°F) temperature specified in ASTM D 4359-84.

Magazine vessel means a vessel used for the receiving, storing, or dispensing of explosives.

Magnetic material. See §173.21(d) of this subchapter.

Marine pollutant, means a hazardous material which is listed in appendix B to §172.101 of this subchapter (also see §171.4) and, when in a solution or mixture of one or more marine pollutants, is packaged in a concentration which equals or exceeds:

- (1) Ten percent by weight of the solution or mixture for materials listed in the appendix; or
- (2) One percent by weight of the solution or mixture for materials that are identified as severe marine pollutants in the appendix.

Marking means a descriptive name, identification number, instructions, cautions, weight, specification, or UN marks, or combinations thereof, required by this subchapter on outer packagings of hazardous materials.

Material of trade means a hazardous material, other than a hazardous waste, that is carried on a motor vehicle—

- (1) For the purpose of protecting the health and safety of the motor vehicle operator or passengers;
- (2) For the purpose of supporting the operation or maintenance of a motor vehicle (including its auxiliary equipment); or
- (3) By a private motor carrier (including vehicles operated by a rail carrier) in direct support of a principal business that is other than transportation by motor vehicle.

Material poisonous by inhalation means:

- (1) A gas meeting the defining criteria in §173.115(c) of this subchapter and assigned to Hazard Zone A, B, C, or D in accordance with §173.116(a) of this subchapter;
- (2) A liquid (other than as a mist) meeting the defining criteria in §173.132(a)(1)(iii) of this subchapter and assigned to Hazard Zone A or B in accordance with §173.133(a) of this subchapter; or
- (3) Any material identified as an inhalation hazard by a special provision in Column 7 of the §172.101 Table.

Maximum Allowable Working Pressure or *MAWP* For DOT specification cargo tanks used to transport liquid hazardous materials, see §178.345-1(k).

Maximum capacity means the maximum inner volume of receptacles or packagings.

Maximum net mass means the allowable maximum net mass of contents in a single packaging, or as used in Subpart M of Part 178 of this subchapter, the maximum combined mass of inner packaging, and the contents thereof.

Miscellaneous hazardous material see §173.140 of this subchapter.

Mixture means a material composed of more than one chemical compound or element.

Mode means any of the following transportation methods; rail, highway, air, or water.

Motor vehicle includes a vehicle, machine, tractor, trailer, or semitrailer, or any combination thereof, propelled or drawn by mechanical power and used upon the highways in the transportation of passengers or property. It does not include a vehicle, locomotive, or car operated exclusively on a rail or rails, or a trolley bus operated by electric power derived from a fixed overhead wire, furnishing local passenger transportation similar to street-railway service.

Name of contents means the proper shipping name as specified in §172.101 of this subchapter.

Navigable waters means, for the purposes of this subchapter, waters of the United States, including the territorial seas.

Non-bulk packaging means a packaging which has:

- (1) A maximum capacity of 450 L (119 gallons) or less as a receptacle for a liquid;
- (2) A maximum net mass of 400 kg (882 pounds) or less and a maximum capacity of 450 L (119 gallons) or less as a receptacle for a solid; or
- (3) A water capacity of 454 kg (1000 pounds) or less as a receptacle for a gas as defined in §173.115 of this subchapter.

Nonflammable gas See §173.115 of this subchapter.

N.O.S. means not otherwise specified.

n.o.s. description means a shipping description from the §172.101 Table which includes the abbreviation "n.o.s.", and as contained in the lists in §172.203(k)(3) of this subchapter, regarding additional description requirements.

NPT means an American Standard taper pipe thread in compliance with the requirements of Federal Standard H28, Part II, Section VII. See §171.7(d)(12).

NRC (non-reusable container) means a packaging (container) whose reuse is restricted in accordance with the provisions of §173.28 of this subchapter.

Occupationally exposed hazmat employee means a hazmat employee whose duties involve exposure to ionizing radiation.

Occupied caboose means a rail car being used to transport non-passenger personnel.

Officer in Charge, Marine Inspection means a person from the civilian or military branch of the Coast Guard designated as such by the Commandant and who under the supervision and direction of the Coast Guard District Commander is in charge of a designated inspection zone for the performance of duties with respect to the enforcement and administration of Title 52, Revised Statutes, acts amendatory thereof or supplemental thereto, rules and regulations thereunder, and the inspection required thereby.

Offshore supply vessel means a cargo vessel of less than 500 gross tons that regularly transports goods, supplies or equipment in support of exploration or production of offshore mineral or energy resources.

Operator means a person who controls the use of an aircraft, vessel, or vehicle.

Organic peroxide. See §173.128 of this subchapter.

ORM means other regulated material. See §173.144 of this subchapter.

Outage or ullage means the amount by which a packaging falls short of being liquid full, usually expressed in percent by volume.

Outer packaging means the outermost enclosure of a composite or combination packaging together with any absorbent materials, cushioning and any other components necessary to contain and protect inner receptacles or inner packagings.

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.

Oxidizer. See §173.127 of this subchapter.

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

Oxygen generator (chemical) means a device containing chemicals that upon activation release oxygen as a product of chemical reaction.

Package or Outside Package means a packaging plus its contents. For radioactive materials, see §173.403 of this subchapter.

Packaging means a receptacle and any other components or materials necessary for the receptacle to perform its containment function in conformance with the minimum packing requirements of this subchapter. For radioactive materials packaging, see §173.403 of this subchapter.

Packing group means a grouping according to the degree of danger presented by hazardous materials. Packing Group I indicates great danger. Packing Group II, medium danger; Packing Group III, minor danger. See §172.101(f) of this subchapter.

Passenger (With respect to vessels and for the purposes of Part 176 only) means a person being carried on a vessel other than:

- (1) The owner or his representative;
- (2) The operator;
- (3) A bona fide member of the crew engaged in the business of the vessel who has contributed no consideration for his carriage and who is paid for his services; or
- (4) A guest who has not contributed any consideration directly or indirectly for his carriage.

Passenger-carrying aircraft means an aircraft that carries any person other than a crewmember, company employee, an authorized representative of the United States, or a person accompanying the shipment

Passenger vessel means—

- (1) A vessel subject to any of the requirements of the International Convention for the Safety of Life at Sea, 1974, which carries more than 12 passengers;
- (2) A cargo vessel documented under the law of the United States and not subject to that Convention, which carries more than 16 passengers;
- (3) A cargo vessel of any foreign nation that extends reciprocal privileges and is not subject to that Convention and which carries more than 16 passengers; and
- (4) A vessel engaged in a ferry operation and which carries passengers.

Person means an individual, firm, copartnership, corporation, company, association, joint-stock association, including any trustee, receiver, assignee, or similar representative thereof; or government, Indian tribe, or agency or instrumentality of any government or Indian tribe when it offers hazardous material for transportation in commerce or transports hazardous material to further a commercial enterprise, but such term does not include:

- (1) The United States Postal Service;
- (2) For the purposes of 49 U.S.C. 5123 and 5124, any agency or instrumentality of the Federal Government.

Placarded car means a rail car which is placarded in accordance with the requirements of Part 172 of this subchapter except those cars displaying only the FUMIGATION placards as required by §172.510.

Poisonous gas. See §173.115 of this subchapter.

Poisonous materials. See §173.132 of this subchapter.

Portable tank means a bulk packaging (except a cylinder having a water capacity of 1000 pounds or less) designed primarily to be loaded onto, or on, or temporarily attached to a transport vehicle or ship and equipped with skids, mountings, or accessories to facilitate handling of the tank by mechanical means. It does not include a cargo tank, tank car, multi-unit tank car tank, or trailer carrying 3AX, 3AAX, or 3T cylinders.

Preferred route or Preferred highway is a highway for shipment of “highway route controlled quantities” of radioactive materials so designated by a State routing agency, and any Interstate System highway for which an alternative highway has not been designated by such State agency as provided by §177.825(b) of this subchapter.

Primary hazard means the hazard class of a material as assigned in the §172.101 Table.

Private track or Private siding means track located outside of a carrier’s right-of-way, yard, or terminals where the carrier does not own the rails, ties, roadbed, or right-of-way and includes track or portion of track which is devoted to the purpose of its user either by lease or written agreement, in which case the lease or written agreement is considered equivalent to ownership.

Proper shipping name means the name of the hazardous material shown in Roman print (not italics) in §172.101 of this subchapter.

P.s.i. or psi means pounds per square inch.

P.s.i.a. or psia means pounds per square inch absolute.

P.s.i.g. or psig means pounds per square inch gauge.

Public vessel means a vessel owned by and being used in the public service of the United States. It does not include a vessel owned by the United States and engaged in a trade or commercial service or a vessel under contract or charter to the United States.

Pyrophoric liquid. See §173.124(b) of this subchapter.

Radioactive materials. See §173.403 of this subchapter for definitions relating to radioactive materials.

Rail car means a car designed to carry freight or non-passenger personnel by rail, and includes a box car, flat car, gondola car, hopper car, tank car, and occupied caboose.

Railroad means a person engaged in transportation by rail.

Receptacle means a containment vessel for receiving and holding materials, including any means of closing.

Registered Inspector means a person registered with the Department in accordance with subpart F of part 107 of this chapter who has the knowledge and ability to determine whether a cargo tank conforms with the applicable DOT specification. In addition, Registered Inspector means a person who meets, at a minimum, any one of the following:

- (1) Has an engineering degree and one year of work experience.
- (2) Has an associate degree in engineering and two years of work experience.
- (3) Has a high school diploma (or General Equivalency Diploma) and three years of work experience.
- (4) Has at least three years experience in performing the duties of a Registered Inspector by September 1, 1991, and was registered with the Department by December 31, 1995.

Reportable quantity (RQ) for the purposes of this subchapter means the quantity specified in Column 3 of the Appendix to §172.101 for any material identified in Column 1 of the Appendix.

Regulated medical waste. See §173.134 of this subchapter.

Research means investigation or experimentation aimed at the discovery of new theories or laws and the discovery and interpretation of facts or revision of accepted theories or laws in the light of new facts.

Residue means the hazardous material remaining in a packaging, including a tank car, after its contents have been unloaded to the maximum extent practicable and before the packaging is either refilled or cleaned of hazardous material and purged to remove any hazardous vapors.

RSPA means the Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590.

SADT means self-accelerated decomposition temperature. See §173.21(f) of this subchapter.

Salvage packaging means a special packaging conforming to §173.3 of this subchapter into which damaged, defective or leaking hazardous materials packages, or hazardous materials that have spilled or leaked, are placed for purposes of transport for recovery or disposal.

SCF (standard cubic foot) means one cubic foot of gas measured at 60°F and 14.7 psia.

Self-defense spray means an aerosol or non-pressurized device that:

- (1) Is intended to have an irritating or incapacitating effect on a person or animal; and
- (2) Meets no hazard criteria other than for Class 9 (for example, a pepper spray; see §173.140(a) of this subchapter) and, for an aerosol, Division 2.1 or 2.2 (see §173.115 of this subchapter), except that it may contain not more than two percent by mass of a tear gas substance (e.g., chloroacetophenone (CN) or O-chlorobenzylmalonitrile (CS); see §173.132(a)(2) of this subchapter.)

Sheathing means a covering consisting of a smooth layer of wood placed over metal and secured to prevent any movement.

Shipping paper means a shipping order, bill of lading, manifest or other shipping document serving a similar purpose and containing the information required by §§172.202, 172.203 and 172.204.

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

Single packaging means a non-bulk packaging other than a combination packaging.

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

Solution means any homogeneous liquid mixture of two or more chemical compounds or elements that will not undergo any segregation under conditions normal to transportation.

Specification packaging means a packaging conforming to one of the specifications or standards for packagings in Part 178 or Part 179 of this subchapter.

Spontaneously combustible material. See §173.124(b) of this subchapter.

State means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, the Virgin Islands, American Samoa, Guam, or any other territory or possession of the United States designated by the Secretary.

State-designated route means a preferred route selected in accordance with U.S. DOT “Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantities of Radioactive Materials” or an equivalent routing analysis which adequately considers overall risk to the public.

Stowage means the act of placing hazardous materials on board a vessel.

Strong outside container means the outermost enclosure which provides protection against the unintentional release of its contents under conditions normally incident to transportation.

Subsidiary hazard means a hazard of a material other than the primary hazard. (See “primary hazard”).

Table in §172.101 or §172.101 Table means the Hazardous Materials Table in §172.101 of this subchapter.

Technical name means a recognized chemical name or microbiological name currently used in scientific and technical handbooks, journals, and texts. Generic descriptions are authorized for use as technical names provided they readily identify the general chemical group, or microbiological group. Examples of acceptable generic chemical descriptions are organic phosphate compounds, petroleum aliphatic hydrocarbons and tertiary amines. For proficiency testing only, generic microbiological descriptions such as bacteria, mycobacteria, fungus, and viral samples may be used. Except for names which appear in Subpart B of Part 172 of this subchapter, trade names may not be used as technical names.

TOFC means trailer-on-flat-car.

Top shell means the tank car tank surface, excluding the head ends and bottom shell of the tank car tank.

Trailership means a vessel, other than a carfloat, specifically equipped to carry motor transport vehicles and fitted with installed securing devices to tie down each vehicle. The term “trailership” includes “Roll-on/Roll-off (RO/RO)” vessels.

Train means one or more engines coupled with one or more rail cars except during switching operations or where the operation is that of classifying and assembling rail cars within a railroad yard for the purpose of making or breaking up trains.

Trainship means a vessel other than a rail car ferry or carfloat, specifically equipped to transport railroad vehicles, and fitted with installed securing devices to tie down each vehicle.

Transport vehicle means a cargo-carrying vehicle such as an automobile van, tractor, truck, semitrailer, tank car or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, rail car, etc.) is a separate transport vehicle.

UFC means Uniform Freight Classification.

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

UN means United Nations.

Unit load device means any type of freight container, aircraft container, aircraft pallet with a net, or aircraft pallet with a net over an igloo.

United States means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, the Virgin Islands, American Samoa, Guam, or any other territory or possession of the United States designated by the Secretary.

Vessel includes every description of watercraft, used or capable of being used as a means of transportation on the water.

Viscous liquid means a liquid material which has a measured viscosity in excess of 2500 centistokes at 25°C (77°F) when determined in accordance with the procedures specified in ASTM Method D 445-72 “Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)” or ASTM Method D 1200-70 “Viscosity of Paints, Varnishes, and Lacquers by Ford Viscosity Cup.”

Volatility refers to the relative rate of evaporation of materials to assume the vapor state.

Water reactive material. See §173.124(c) of this subchapter.

Water resistant means having a degree of resistance to permeability by and damage caused by water in liquid form.

Wooden barrel means a packaging made of natural wood, of round cross-section, having convex walls, consisting of staves and heads and fitted with hoops.

W.T. means watertight.

§171.9 Rules of construction.

(a) In this subchapter, unless the context requires otherwise:

- (1) Words imparting the singular include the plural;
- (2) Words imparting the plural include the singular; and
- (3) Words imparting the masculine gender include the feminine;

(b) In this subchapter, the word:

- (1) “Shall” is used in an imperative sense;
- (2) “Must” is used in an imperative sense;
- (3) “Should” is used in a recommendatory sense;
- (4) “May” is used in a permissive sense to state authority or permission to do the act described, and the words “no person may ***” or “a person may not ***” means that no person is required, authorized, or permitted to do the act described; and
- (5) “Includes” is used as a word of inclusion not limitation.

§171.10 Units of measure.

(a) *General.* To ensure compatibility with international transportation standards, most units of measure in this subchapter are expressed using the International

System of Units (“SI” or metric). Where SI units appear, they are the regulatory standard. U.S. standard or customary units, which appear in parentheses following the SI units, are for information only and are not intended to be the regulatory standard.

(b) Abbreviations for SI units of measure generally used throughout this subchapter are as shown in paragraph (c) of this section. Customary units shown throughout this subchapter are generally not abbreviated.

(c) *Conversion values.*

(1) Conversion values are provided in the following table and are based on values provided in ASTM E 380-89, “Standard for Metric Practice.”

(2) If an exact conversion is needed, the following conversion table should be used.

Table of Conversion Factors for SI Units

Activity	1 TBq = 27 Ci	1 Ci = 0.037 TBq
Length	1 cm = 0.3937008 in	1 in = 2.540000 cm
	1 m = 3.280840 ft	1 ft = 0.3048000 m
Thickness	1 mm = 0.03937008 in	1 in = 25.40000 mm
Mass (weight)	1 kg = 2.204622 lb	1 lb = 0.4535924 kg
	1 gr = 0.03527397 oz	1 oz = 28.34952 gr
Pressure	1 kPa = 0.1450377 psi	1 psi = 6.894757 kPa
	1 Bar = 100 kPa = 14.504 psi	1 psi = 0.06895 Bar
Radiation level	1 kPa = 7.5 mm Hg	
	1 Sv/hr = 100 rem/hr	1 rem/hr = 0.01 Sv/hr
Volume (liquid)	1 l = 0.2641720 gal	1 gal = 3.785412 l
	1 ml = 0.03381402 oz	1 oz = 29.57353 ml
Density	1 m ³ = 35.31466 ft ³	1 ft ³ = 0.02831685 m ³
	1 kg/m ³ = 0.06242797 lb/ft ³	1 lb/ft ³ = 16.01846 kg/m ³

Abbreviation for units of measure are as follows:

Unit of measure and abbreviation:

(SI): millimeter, mm; centimeter, cm; meter, m; gram, g; kilogram, kg; kiloPascal, kPa; liter, L; milliliter, ml; cubic meter, m³; Terabecquerel, TBq; Gigabecquerel, GBq; millisievert, mSv;

(U.S.): Inch, in; foot, ft; ounce, oz; pound, lb; pounds per square inch, psi; gallon, gal; cubic feet, ft³; Curie, Ci; millicurie, mCi; millirem, mrem.

§171.11 Use of ICAO Technical Instructions.

Notwithstanding the requirements of Parts 172 and 173 of this subchapter, a hazardous material may be transported by aircraft, and by motor vehicle either before or after being transported by aircraft, in accordance with the ICAO Technical Instructions if the hazardous material:

(a) Is packaged, marked, labeled, classified, described and certified on a shipping paper and otherwise in a condition for shipment as required by the ICAO Technical Instructions;

(b) Is within the quantity limits prescribed for transportation by either passenger-carrying or cargo aircraft, as appropriate, as specified in the ICAO Technical Instructions;

(c) Is not a forbidden material or package according to §173.21 of this subchapter or Column 3 of the §172.101 Table; and

(d) Fulfills the following additional requirements as applicable:

(1) For a material that meets the definition of a hazardous substance as defined in this subchapter, the shipping paper and package markings must conform to the provisions in §172.203(c) and 172.324, respectively, of this subchapter.

(2) When a hazardous material, which is subject to the requirements of the ICAO Technical Instructions, is also a hazardous waste as defined in this subchapter:

(i) The word “Waste” must precede the proper shipping name on shipping papers and package markings; and

(ii) It must comply with §172.205 with respect to the hazardous waste manifests.

(3) When a hazardous material is not subject to the requirements of the ICAO Technical Instructions, it must be transported as required by this subchapter.

(4) When a hazardous material that is regulated by this subchapter for transportation by highway is transported by motor vehicle on a public highway under the provisions of this section, the following requirements apply:

(i) The motor vehicle must be placarded in accordance with subpart F of part 172 of this subchapter; and

(ii) The shipping paper must include an indication that the shipment is being made under the provisions of this section or must include the letters “ICAO.”

(5) If a liquid or solid material in a package meets the definition of a poison according to this subchapter, and the fact that it is a poison is not disclosed in the shipping name or by a class entry, an indication that the material is a poison shall be entered on the shipping paper in association with the basic description. For transportation by motor vehicle, this indication must be made by entering the words "Poison or Toxic" on the shipping paper in association with the basic description.

(6) For radioactive materials:

(i) Shipping papers for highway route controlled quantity radioactive materials shipments must meet the requirements of §172.203(d)(4) of this subchapter.

(ii) Competent authority certification and any necessary revalidation for Type B, Type B(U), Type B(M), and fissile materials packages must be obtained from the appropriate authorities as specified in §§173.471, 173.472 and 173.473 of this subchapter, and all requirements of the certificates and revalidations must be met.

(iii) Except for limited quantities of Class 7 (radioactive) material, the provisions of §§172.204(c)(4), 173.448(e), (f) and (g)(3) of this subchapter apply.

(iv) Limited quantities of radioactive materials must meet the provisions of §173.421, §

173.424 or §173.426 as appropriate of this subchapter, and

(v) Type A package contents shall be limited in accordance with §173.431 of this subchapter.

(7) If a United States variation is indicated in the ICAO Technical Instructions for any provision governing the transport of the hazardous material, the hazardous material is transported in conformance with that variation.

(8) Abbreviations may not be used in shipping paper entries or package markings unless they are specifically authorized by this subchapter. ICAO class or division numbers are not considered to be abbreviations.

(9) When a hazardous material, which is subject to the requirements of the ICAO Technical Instructions, is a material poisonous by inhalation (see §171.8 of this subchapter)—

(i) The shipping description must include the words "Toxic Inhalation Hazard" or "Poison Inhalation Hazard" or "Inhalation Hazard", as required in §172.203(m) of this subchapter;

(ii) The material must be packaged in accordance with the requirements of this subchapter; and

(iii) The package must be marked in accordance with §172.313 of this subchapter and labeled with "POISON INHALATION HAZARD" or "POISON GAS", as appropriate, in accordance with Subpart E of Part 172 of this subchapter.

(10) Shipments of hazardous materials under this section must conform to the requirements for emergency response information as prescribed in Subpart G of Part 172 of this subchapter.

(11) Packages of Class 1 (explosive) materials must be marked in accordance with §172.320 of this subchapter.

(12) If an ammonium nitrate fertilizer or ammonium nitrate mixed fertilizer, must not meet the definition and criteria of a Class 1 (explosive) material.

(13) Transportation of marine pollutants, as defined in §171.8 of this subchapter, in bulk packagings must conform to the requirements of §§172.203(1) and 172.322 of this subchapter

(14) An aerosol must meet the definition for "Aerosol" in §171.8.

(15) An oxygen generator (chemical) must be classed, approved, and described in accordance with the requirements of this subchapter.

§171.12 Import and export shipments.

(a) *Importer's responsibility.* Except in the case of a shipment from Canada conforming to §171.12a of this subchapter, each person importing a hazardous material into the United States shall provide the shipper and the forwarding agent at the place of entry into the United States timely and complete information as to the requirements of this subchapter that will apply to the shipment of the material within the United States. The shipper, directly or through the forwarding agent at the place of entry, shall provide the initial carrier in the United States the certificate of compliance required by §172.204 of this subchapter. The carrier may not accept the material for transportation unless the required certification is provided.

(b) *IMDG Code.* The IMDG Code sets forth descriptions, classifications, packagings, labeling and vessel stowage requirements. Notwithstanding the provisions of this subchapter, a material which is packaged, marked, classed, labeled, placarded, described, stowed and segregated, and certified (including a container packing certification, if applicable) in accordance with the IMDG Code, and otherwise conforms to the requirements of this section, may be offered and accepted for transportation and transported within the United States. The following conditions and limitations apply:

(1) The provisions of this paragraph (b) apply only if all or part of the transportation is by vessel.

(2) A number of materials listed in the IMDG Code are not subject to the requirements of this subchapter. The provisions of this subchapter do not apply to materials listed in the IMDG Code which are not designated as hazardous materials under this subchapter. These materials may, however, be transported in the U.S. when described, marked and labeled in accordance with the IMDG Code.

(3) A material designated as a hazardous material under this subchapter which is not subject to the requirements of the IMDG Code may not be transported under the provisions of this section.

(4) A forbidden material or package according to §173.21 of this subchapter or Column 3 of the §172.101 Table may not be transported under the provisions of this section.

(5) Except for packagings conforming to the requirements of Section 26 of the General Introduction to the IMDG Code, bulk packagings must conform to the requirements of this subchapter.

(6) For export, packagings must conform to the applicable requirements in §§173.24, 173.24a and 173.28 of this subchapter.

(7) A Class 1 material must be classed and approved under the procedures in subpart C of Part 173 of this subchapter, and conform to the requirements of §172.320 and Part 176 of this subchapter.

(8) When a hazardous material, which is subject to the requirements of the IMDG Code, is a material poisonous by inhalation (see §171.8 of this subchapter)—

(i) The shipping description must include the words "Toxic Inhalation Hazard" or "Poison Inhalation Hazard" or "Inhalation Hazard", as required in §172.203(m) of this subchapter;

(ii) The material must be packaged in accordance with the requirements of this subchapter; and

(iii) The package must be marked in accordance with §172.313 of this subchapter and labeled and placarded with "POISON INHALATION HAZARD" or "POISON GAS", as appropriate, in accordance with Subparts E and F, respectively, of Part 172 of this subchapter.

(9) Class 7 materials must conform to the provisions of paragraph (d) of this section.

(10) For a hazardous waste, as defined in this subchapter—

(i) The word "Waste" must precede the proper shipping name on shipping papers and packages; and

(ii) The requirements of §172.205 of this subchapter with respect to hazardous waste manifests are applicable.

(11) A hazardous substance as defined in this subchapter must conform to the requirements of §§172.203(c) and 172.324 of this subchapter.

(12) A poisonous material must conform to the requirements of §172.203(m) of this subchapter.

(13) [Reserved]

(14) Any ammonium nitrate fertilizer or ammonium nitrate mixed fertilizer must not meet the definition and criteria of a Class 1 (explosive) material.

(15) Cylinders not manufactured to DOT specifications must conform to the requirements of §173.301(i) and (j) of this subchapter.

(16) Shipments of hazardous materials under this section must conform to the requirements for emergency response information as prescribed in Subpart G of Part 172 of this subchapter.

(17) An aerosol must meet the definition for "Aerosol" in §171.8.

(18) An oxygen generator (chemical) must be classed, approved, and described in accordance with the requirements of this subchapter.

(c) *Use of IMDG Code in port areas.* Section 171.2 notwithstanding, a hazardous material (other than Division 1.1 or 1.2 or Class 7) being imported into or exported from the United States or passing through the United States in the course of being shipped between places outside the United States may be offered and accepted for transportation and transported by motor vehicle within a single port area (including contiguous harbors) when packaged, marked, classed, labeled, stowed and segregated in accordance with the IMDG Code, if the hazardous material is offered and accepted in accordance with the requirements of Subparts C and F of Part 172 of this subchapter pertaining to shipping papers and placarding and otherwise conforms to the applicable requirements of Part 176 of this subchapter. The requirement in §172.201(d) of this subchapter for an emergency telephone number does not apply to shipments made in accordance with the IMDG Code if the hazardous material:

(1) Is not offloaded from the vessel;

(2) Is offloaded between ocean vessels at a U.S. port facility without being transported by public highway.

(d) *Use of IAEA regulations for Class 7 (radioactive) materials.* Class 7 (radioactive) materials being imported into, or exported from, the United States, or

passing through the United States in the course of being shipped between places outside the United States, may be offered and accepted for transportation when packaged, marked, labeled, and otherwise prepared for shipment in accordance with IAEA "Regulations for the Safe Transport of Radioactive Materials, Safety Series No. 6," if:

- (1) Highway route controlled quantities (see §173.403 of this subchapter) are shipped in accordance with §§172.203(d)(4), 172.507 and 173.22(c) of this subchapter;
- (2) For fissile materials and Type B packages, the competent authority certification and any necessary revalidation is obtained from the appropriate competent authorities as specified in §§173.471, 173.472 and 173.473 of this subchapter and all requirements of the certificates and revalidations are met;
- (3) Type A package contents are limited in accordance with §173.431 of this subchapter;
- (4) The country of origin for the shipment has adopted the IAEA "Regulations for the Safe Transport of Radioactive Materials, Safety Series No. 6";
- (5) The requirements of §§173.448(e), 173.448(f), and 173.448(g)(3) of this subchapter are fulfilled, when applicable; and
- (6) Shipments comply with the requirements for emergency response information prescribed in Subpart G of Part 172 of this subchapter.

§171.12a Canadian shipments and packagings.

(a) *Scope and applicability.* This section sets forth provisions for the transportation by rail or highway of shipments of hazardous materials which conform to the regulations of the Government of Canada but which may differ from the requirements of this subchapter with regard to hazard communication, classification or packaging. The provisions apply only to shipments which originate in Canada and either terminate in the U.S. or transit the U.S. to a Canadian or foreign destination, and to the return to Canada of empty bulk packages containing residues of hazardous materials which originally were imported into the U.S. Reciprocal provisions, applicable to exports from the U.S., appear in the regulations of the Government of Canada.

(b) *Conditions and limitations.* Notwithstanding the requirements of Parts 172, 173, and 178 of this subchapter, and subject to the limitations of paragraph (a) of this section, a hazardous material that is classed, marked, labeled, placarded, described on a shipping paper and packaged in accordance with the Transportation of Dangerous Goods Regulations (TDG) Regulations issued by the Government of Canada may be offered for transportation and transported to or through the United States by motor vehicle or rail car. Copies of the TDG Regulations may be obtained from the Canadian Government Publishing Centre, Ottawa, Ontario K1A 0S9; Telephone (819) 956-4800. The following conditions and limitations apply:

(1) A number of materials listed in the TDG Regulations may not be subject to the requirements of this subchapter. The provisions of this subchapter do not apply to materials listed in the TDG Regulations which are not designated as hazardous materials under this subchapter. These materials may, however, be transported in the U.S. when described, marked and labeled in accordance with the TDG Regulations.

(2) A material designated as a hazardous material under this subchapter which is not subject to the requirements of the TDG Regulations may not be transported under the provisions of this section.

(3) A forbidden material or package according to §173.21 of this subchapter or Column 3 of the §172.101 Table may not be transported under the provisions of this section.

(4) A Class 1 material must be classed and approved under the procedures in Subpart C of Part 173 of this subchapter, and packages of Class 1 materials must be marked in accordance with §172.320 of this subchapter.

(5) When a hazardous material, which is a material poisonous by inhalation under the provisions of this subchapter (see §171.8 of this subchapter), is subject to the requirements of the TDG Regulations—

(i) The shipping description must include the words "Toxic Inhalation Hazard" or "Poison Inhalation Hazard" or "Inhalation Hazard", as required in §172.203(m) of this subchapter;

(ii) The material must be packaged in accordance with the requirements of this subchapter; and

(iii) The package must be marked in accordance with §172.313 of this subchapter. Except for a package containing anhydrous ammonia, the package must be labeled and placarded with "POISON INHALATION HAZARD" or "POISON GAS", as appropriate, in accordance with Subparts E and F, respectively, of Part 172 of this subchapter. For shipments of anhydrous ammonia, the shipping paper must contain an indication that the markings, labels and placards have been applied in conformance with the TDG Regulations and this paragraph (b)(5).

(6) Required shipping descriptions and package markings must be in English. Abbreviations may not be used unless specifically authorized by this subchapter.

Identification numbers must be preceded by "UN" or "NA". The use of an identification number preceded by "PIN" is not authorized.

(7) Shipments must conform to the requirements for emergency response information in Subpart G of Part 172 of this subchapter.

(8) A Class 7 material must conform to the provisions of §171.12(d) of this subchapter;

(9) For a hazardous waste as defined in this subchapter—

(i) The word "Waste" must precede the proper shipping name on shipping papers and packages; and

(ii) The requirements of §172.205 of this subchapter with respect to hazardous waste manifests are applicable;

(10) A hazardous substance as defined in this subchapter must conform to the requirements of §§172.203(c) and 172.324 of this subchapter; and

(11) A poisonous material must conform to the requirements of §172.203(m) of this subchapter.

(12) [Reserved]

(13) When the provisions of this subchapter require that a DOT specification or UN standard packaging must be used for a hazardous material, a packaging authorized by the TDG Regulations may be used only if it corresponds to the DOT specification or UN packaging authorized by this subchapter. Cylinders not manufactured to DOT specifications must conform to the requirements of §173.301(i) and (j) of this subchapter.

(14) Any ammonium nitrate fertilizer or ammonium nitrate mixed fertilizer must not meet the definition and criteria of a Class 1 (explosive) material.

(15) Transportation of marine pollutants, as defined in §171.8 of this subchapter, must conform to the requirements of §§172.203(1) and 172.322 of this subchapter.

(16) An aerosol must meet the definition for "Aerosol" in §171.8.

(17) An oxygen generator (chemical) must be classed, approved, and described in accordance with the requirements of this subchapter.

§171.13 [Reserved]

§171.14 Transitional provisions for implementing certain requirements.

General. The purpose of the provisions of this section is to provide an orderly transition to certain new requirements so as to minimize any burdens associated with them.

(a) *Previously filled packages—*

(1) *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—

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

(ii) Was filled with a hazardous material prior to October 1, 1991;

(iii) 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

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

(2) *Non-bulk packages filled prior to October 1, 1996.* Notwithstanding the packaging provisions of subpart B of Part 172 and the packaging provisions of part 173 of this subchapter with respect to UN standard packagings, a non-bulk package other than a cylinder may be offered for transportation and transported domestically prior to October 1, 1999, if it—

(i) Conforms to the requirements of this subchapter in effect on September 30, 1996;

(ii) Was filled with a hazardous material prior to October 1, 1996; and

(iii) Is not emptied and refilled on or after October 1, 1996.

(b) *Transitional placarding provisions.* Until October 1, 2001, placards which conform to specifications for placards in effect on September 30, 1991, or placards specified in the December 21, 1990 final rule may be used, for highway transportation only, 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 No.	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.

Placard Substitution Table — *continued*

Hazard class or division No.	Current placard name	Old (Sept. 30, 1991) placard name
Division 1.6	Explosives 1.6	Dangerous.
Division 2.1	Flammable gas	Flammable gas.
Division 2.2	Nonflammable gas	Nonflammable gas.
Division 2.3 ¹	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, (inhalation hazard, Zone A or B) ¹ .	Poison inhalation hazard	Poison.
Division 6.1, PG I and II (other than Zone A or B inhalation hazard).	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).

¹ For materials poisonous by inhalation, by all modes of transportation, until October 1, 2001, placards may be used that conform to specifications for placards (1) in effect on September 30, 1991, (2) specified in the December 21, 1990 final rule, or (3) specified in the July 22, 1997 final rule.

(c) *Non-specification fiber drums.*

(1) A non-specification fiber drum with a removable head is authorized for a liquid hazardous material in Packing Group III that is not poisonous by inhalation for which the packaging was authorized under the requirements of Part 172 or Part 173 of this subchapter in effect on September 30, 1991. This authorization expires on the later of September 30, 1997, or the date on which funds are authorized to be appropriated to carry out chapter 51 of title 49, United States Code (related to transportation of hazardous materials), for fiscal years beginning after September 30, 1997. Information concerning this funding authorization date may be obtained by contacting the Office of the Associate Administrator for Hazardous Materials Safety.

(2) A non-specification fiber drum with a removable head authorized by paragraph (c)(1) of this section may be offered for transportation and transported domestically prior to October 1, 1999, if it—

- (i) Was filled with an authorized hazardous material prior to the expiration of the authority in paragraph (c)(1) of this section; and
- (ii) Is not emptied and refilled after the expiration of the authority in paragraph (c)(1) of this section.

(d) A rule published in the *Federal Register* on May 6, 1997, effective October 1, 1997, resulted in revisions to this subchapter. During the transition period provided in paragraph (d)(1) of this section, a person may elect to comply with either the applicable requirements of this subchapter in effect on September 30, 1997, or the requirements of this subchapter in the May 6, 1997 final rule, in effect on October 1, 1997.

(1) *Transition date.* On October 1, 1998, all applicable regulatory requirements adopted in the May 6, 1997 final rule in effect on October 1, 1997 must be met.

(2) *Intermixing old and new requirements.* Prior to the transition date in paragraph (d)(1) of this section, it is recommended that the 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, 1997, or new requirements of this subchapter in the May 6, 1997 rule, in effect on October 1, 1997, 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.

(e) Notwithstanding §§172.416 and 172.429 of this subchapter specified in the July 22, 1997 final rule, when labels are required by subpart E of part 172 of this subchapter to be affixed to a material poisonous by inhalation, labels that conform to the requirements of this subchapter in effect on September 30, 1997, may be used on packagings offered for transportation or transported until October 1, 1999.

§171.15 Immediate notice of certain hazardous materials incidents.

(a) At the earliest practicable moment, each carrier who transports hazardous materials (including hazardous wastes) shall give notice in accordance with paragraph (b) of this section after each incident that occurs during the course of transportation (including loading, unloading and temporary storage) in which—

- (1) As a direct result of hazardous materials—
 - (i) A person is killed; or
 - (ii) A person receives injuries requiring his or her hospitalization; or
 - (iii) Estimated carrier or other property damage exceeds \$50,000; or
 - (iv) An evacuation of the general public occurs lasting one or more hours; or
 - (v) One or more major transportation arteries or facilities are closed or shut down for one hour or more; or
 - (vi) The operational flight pattern or routine of an aircraft is altered; or
- (2) Fire, breakage, spillage, or suspected radioactive contamination occurs involving shipment of radioactive material (see also §§175.45, 176.48, and 177.807 of this subchapter); or
- (3) Fire, breakage, spillage, or suspected contamination occurs involving shipment of infectious substances (etiologic agents); or
- (4) There has been a release of a marine pollutant in a quantity exceeding 450 L (199 gallons) for liquids or 400 kg (882 pounds) for solids; or
- (5) A situation exists of such a nature (e.g., a continuing danger to life exists at the scene of the incident) that, in the judgment of the carrier, it should be reported to the Department even though it does not meet the criteria of paragraph (a)(1), (2) or (3) of this section.

(b) Except for transportation by aircraft, each notice required by paragraph (a) of this section shall be given to the Department by telephone (toll-free) on 800-424-8802. Notice involving shipments transported by aircraft must be given to the nearest FAA Civil Aviation Security Office by telephone at the earliest practical moment after each incident in place of the notice to the Department. Notice involving infectious substances (etiologic agents) may be given to the Director, Centers for Disease Control, U.S. Public Health Service, Atlanta, Ga. (800) 232-0124, in place of the notice to the Department or (toll call) on 202-267-2675. Each notice must include the following information:

- (1) Name of reporter.
- (2) Name and address of carrier represented by reporter.
- (3) Phone number where reporter can be contacted.
- (4) Date, time, and location of incident.
- (5) The extent of injuries, if any.
- (6) Classification, name, and quantity of hazardous materials involved, if such information is available.
- (7) Type of incident and nature of hazardous material involvement and whether a continuing danger to life exists at the scene.

(c) Each carrier making a report under this section shall also make the report required by §171.16.

Note: Under 40 CFR 302.6 EPA requires persons in charge of facilities (including transport vehicles, vessels, and aircraft) to report any release of a hazardous substance in a quantity equal to or greater than its reportable quantity, as soon as that person has knowledge of the release, to the U.S. Coast Guard National Response Center at (toll-free) 800-424-8802 or (toll) 202-267-2675.

§171.16 Detailed hazardous materials incident reports.

(a) Each carrier who transports hazardous materials shall report in writing, in duplicate, on DOT Form F 5800.1 (Rev. 6/89) to the Department within 30 days of the date of discovery, each incident that occurs during the course of transportation (including loading, unloading, and temporary storage) in which any of the circumstances set forth in §171.15(a) occurs or there has been an unintentional release of hazardous materials from a package (including a tank) or any quantity of hazardous waste has been discharged during transportation. If a report pertains to a hazardous waste discharge:

- (1) A copy of the hazardous waste manifest for the waste must be attached to the report; and
- (2) An estimate of the quantity of the waste removed from the scene, the name and address of the facility to which it was taken, and the manner of

disposition of any removed waste must be entered in Section IX of the report form (Form F 5800.1) (Rev. 6/89).

(b) Each carrier making a report under this section shall send the report to the Information Systems Manager, DHM-63, Research and Special Programs Administration, Department of Transportation, Washington, DC 20590-0001; and, for incidents involving transportation by aircraft, a copy of the report shall also be sent to the FAA Civil Aviation Security Office nearest the location of the incident. A copy of the report shall be retained for a period of two years, at the carrier's principal place of business, or at other places as authorized and approved in writing by an agency of the Department of Transportation.

(c) Except as provided in paragraph (d) of this section, the requirements of paragraph (a) of this section do not apply to incidents involving the unintentional release of a hazardous material—

- (1) Transported under one of the following proper shipping names:
 - (i) Consumer commodity.
 - (ii) Battery, electric storage, wet, filled with acid or alkali.
 - (iii) Paint and paint related material when shipped in a packaging of five gallons or less.
- (2) Prepared and transported as a limited quantity shipment in accordance with this subchapter.

(d) The exceptions to incident reporting provided in paragraph (c) of this section do not apply to:

- (1) Incidents required to be reported under §171.15(a);
- (2) Incidents involving transportation aboard aircraft;
- (3) Except for consumer commodities, materials in Packing Group I; or
- (4) Incidents involving the transportation of hazardous waste.

Note: A guideline document for assisting in the completion of DOT Form F 5800.1 (Rev. 6/89) may be obtained from the Office of Hazardous Materials Transportation, DHM-51, U.S. Department of Transportation, Washington, DC 20590-0001.

§171.17 [Reserved]

§171.18 [Reserved]

§171.19 Approvals or authorizations issued by the Bureau of Explosives.

Effective December 31, 1998, approvals or authorizations issued by the Bureau of Explosives (BOE), other than those issued under part 179 of this subchapter, are no longer valid.

§171.20 Submission of Examination Reports.

(a) When it is required in this subchapter that the issuance of an approval by the Associate Administrator for Hazardous Materials Safety be based on an examination by the Bureau of Explosives (or any other test facility recognized by RSPA), it is the responsibility of the applicant to submit the results of the examination to the Associate Administrator for Hazardous Materials Safety.

(b) Applications for approval submitted under paragraph (a) of this section, must be submitted to the Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Washington, DC 20590-0001.

(c) Any applicant for an approval aggrieved by an action taken by the Associate Administrator for Hazardous Materials Safety, under this subpart may file an appeal with the Administrator RSPA within 30 days of service of notification of a denial.

§171.21 Assistance in investigations and special studies.

(a) A carrier who is responsible for reporting an incident under the provisions of §171.16 shall make all records and information pertaining to the incident available to an authorized representative or special agent of the Department of Transportation upon request. The carrier shall give an authorized representative or special agent of the Department of Transportation reasonable assistance in the investigation of the incident.

(b) If the Department of Transportation makes an inquiry to a carrier of hazardous materials in connection with a study of incidents, the carrier shall—

- (1) Respond to the inquiry within 30 days after its receipt or within such other time as the inquiry may specify;
- (2) Provide full, true, and correct answers to any questions included in the inquiry.

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

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