

Attachment 1
Referenced 49 CFR Sections

Source and name of material	49 CFR reference
Society of Plastics Industries, Inc., Organic Peroxide Producers Safety Division, 1275 K Street, NW., Suite 400, Washington, DC 20005 Self Accelerating Decomposition Temperature Test, 1972	173.21

[Amdt. 171-111, 55 FR 52466, Dec. 21, 1990]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 171.7, see the List of CFR Sections Affected in the Finding Aids section of this volume.

EFFECTIVE DATE NOTE: At 64 FR 45396, Aug. 19, 1999, § 171.7 paragraph (a)(3) was amended by adding an entry for "Air Transport Association of America", effective Mar. 1, 2000.

§ 171.8 Definitions and abbreviations.

In this subchapter,

Acrosol 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 Inspection Agency means: (1) A jurisdiction which has adopted and administers one or more sections of the ASME Boiler and Pressure Ves-

sel 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.

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.

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 (COTP) 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 7 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	100,000
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 evaluated 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 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.

Metered delivery service means a cargo tank unloading operation conducted at a metered flow rate of 378.5 liters (100 gallons) per minute or less through an attached delivery hose with a nominal inside diameter of 3.175 centimeters (1¼ inches) or less.

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.*

NPT means an American Standard taper pipe thread conforming to 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 laws 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, co-partnership, 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 § 171.825(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.

Regulated medical waste. See § 173.134 of this subchapter.

Reportable quantity (RQ) for the purposes of this subchapter means the quantity specified in column 2 of the appendix to § 172.101 for any material identified in column 1 of the appendix.

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 means United Nations.

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

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.

[Amdt. 171-32, 41 FR 15994, Apr. 15, 1976]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 171.8, see the List of CFR Sections Affected appearing in the Finding Aids section of this volume.

§ 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.

[Amdt. 171-32, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 171-32A, 41 FR 40630, Sept. 20, 1976; Amdt. 171-121, 58 FR 51528, Oct. 1, 1993]

UN Number	Proper Shipping Name	Class	Division	Subdivision	Quantity	Special Provisions	Net Weight	Net Volume	Other	Notes
UN2545	Gunpowder, granular or as a meal, see Black powder (UN 0027); Hafnium powder, dry	4.2	II	4.2	None	211, 212, 241, 242	Forbidden	15 kg	50 kg	D, D
UN1326	Hafnium powder, wetted with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 640 microns. Hand signal device, see Signal devices, hand.	4.1	III	4.2	None	213, 241, 242	Forbidden	25 kg	100 kg	D, D
NA3082, NA3077, UN1046	Hazardous waste, liquid, n.o.s.; Hazardous waste, solid, n.o.s.; Helium, compressed	9, 9, 2.2	III, III	9, 2.2	155, 155, 306	203, 240, 302, 314	No limit No limit 75 kg	No limit No limit 75 kg	No limit No limit 150 kg	A, A, A
UN1963	Helium-oxygen mixture, rare gases and oxygen mixtures.	2.2	2.2	2.2	320	316	50 kg	50 kg	500 kg	B
UN3296	Heptafluoropropane or Refrigerant gas R 227.	2.2	2.2	2.2	306	304	75 kg	75 kg	150 kg	A
UN3056, UN1206, UN2278, UN2661, UN2729, UN2279, UN2646	n-Heptaldehyde; Heptanes; n-Heptane; Hexachloracetone; Hexachlorobenzene; Hexachlorobutadiene; Hexachlorocyclopentadiene	3, 3, 3, 6.1, 6.1, 6.1	III, III, III, III, III, I	3, 3, 3, 6.1, 6.1, 6.1	150, 150, 150, 153, 153, None	203, 202, 202, 203, 203, 227	60 L, 5 L, 60 L, 60 L, 60 L, Forbidden	60 L, 5 L, 60 L, 60 L, 60 L, Forbidden	220 L, 60 L, 60 L, 220 L, 220 L, Forbidden	A, B, B, B, A, D
UN2875, UN1781	Hexachlorophene; Hexadecyltrichlorosilane	6.1, 8	III, II	6.1, 8	153, None	213, 202	100 kg Forbidden	100 kg Forbidden	200 kg 30 L	A, C
UN2458, UN1612	Hexadecanes; Hexaethyl tetraphosphate and compressed gas mixtures.	3, 2.3	II, 3	3, 2.3	None, None	202, 334	5 L Forbidden	5 L Forbidden	60 L Forbidden	B, D
UN1611	Hexaethyl tetraphosphate liquid	6.1	II	6.1	None	202	5 L	5 L	60 L	E
UN1611	Hexaethyl tetraphosphate, solid	6.1	II	6.1	None	212, 242	25 kg	25 kg	100 kg	E

TABLE I—MAXIMUM AMBIENT TEMPERATURE—
GASOLINE

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

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

- B35 Tank cars containing hydrogen cyanide may be alternatively marked "Hydrocyanic acid, liquefied" if otherwise conforming to marking requirements in subpart D of this part. Tank cars marked "HYDROCYANIC ACID" prior to October 1, 1991 do not need to be remarked.
- B37 The amount of nitric oxide charged into any tank car tank may not exceed 1,379 kPa (200 psig) at 21 °C (70 °F).
- B42 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105J. Each tank car must have a safety relief device having a start-to-discharge pressure of 10.34 Bar (150 psig). The tank car specification may be marked to indicate a test pressure of 13.79 Bar (200 psig).
- B44 All parts of valves and safety relief devices in contact with lading must be of a material which will not cause formation of acetylides.
- B45 Safety relief valves must be equipped with stainless steel or platinum frangible discs approved by the AAR Committee on Tank Cars.
- B46 The detachable protective housing for the loading and unloading valves of multi-unit tank car tanks must withstand tank test pressure and must be approved by the Associate Administrator for Hazardous Materials Safety.
- B47 A safety relief device with a start-to-discharge pressure setting of 310 kPa (45 psig) is permitted.
- B48 Portable tanks in sodium metal service may be visually inspected at least once every 5 years instead of being retested hydrostatically. Date of the visual inspection must be stenciled on the tank near the other required markings.
- B49 Tanks equipped with interior heater coils are not authorized. Single unit tank car tanks must have a safety relief valve set at no more than 1551 kPa (225 psig).
- B50 Each valve outlet of a multi-unit tank car tank must be sealed by a threaded solid plug or a threaded cap with inert luting or gasket material. Valves must be of stain-

- less steel and the caps, plugs, and valve seats must be of a material that will not deteriorate as a result of contact with the lading.
- B52 Notwithstanding the provisions of §173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.
- B53 Except for IBCs, packagings must be made of either aluminum or steel.
- B54 Open-top, sift-proof rail cars are also authorized.
- B55 Water-tight, sift-proof, closed-top, metal-covered hopper cars, equipped with a venting arrangement (including flame arrestors) approved by the Associate Administrator for Hazardous Materials Safety are also authorized.
- B56 Water-tight, sift-proof, closed-top, metal-covered hopper cars are also authorized if the particle size of the hazardous material is not less than 149 microns.
- B57 Class 115A tank car tanks used to transport chloroprene must be equipped with a safety vent of a diameter not less than 305 mm (12 inches) with a maximum rupture disc pressure of 45 psi.
- B59 Water-tight, sift-proof, closed-top, metal-covered hopper cars are also authorized provided that the lading is covered with a nitrogen blanket.
- B60 DOT Specification 106A500X multi-unit tank car tanks that are not equipped with a safety relief device of any type are authorized. For the transportation of phosphene, the outage must be sufficient to prevent tanks from becoming liquid full at 55 °C (130 °F).
- B61 Written procedures covering details of tank car appurtenances, dome fittings, safety devices, and marking, loading, handling, inspection, and testing practices must be approved by the Associate Administrator for Hazardous Materials Safety before any single unit tank car tank is offered for transportation.
- B64 Each single unit tank car tank built after December 31, 1990 must be equipped with a tank head puncture resistance system that conforms to §179.16 of this subchapter.
- B65 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105A. Each tank car must have a pressure relief device having a start-to-discharge pressure of 15.51 Bar (225 psig). The tank car specification may be marked to indicate a test pressure of 20.68 Bar (300 psig).
- B66 Each tank must be equipped with gas tight valve protection caps. Outage must be sufficient to prevent tanks from becoming liquid full at 55 °C (130 °F). Specification 110A500W tanks must be stainless steel.
- B67 All valves and fittings must be protected by a securely attached cover made

RATE OF PERMEATION IN PLASTIC PACKAGING AND RECEPTACLES
 APPENDIX C TO PART 173—PROCEDURE FOR BASE-LEVEL VIBRATION TESTING
 APPENDIX D TO PART 173—TEST METHODS FOR DYNAMITE (EXPLOSIVE, BLASTING, TYPE A)
 APPENDIXES E-G TO PART 173 [RESERVED]
 APPENDIX H TO PART 173—METHOD OF TESTING FOR SUSTAINED COMBUSTIBILITY
 AUTHORITY: 49 U.S.C. 5101-5127, 44701; 49 CFR 1.45, 1.53.

ardous materials for shipment as to applicable regulations in this subchapter.
 (c) When a person other than the person preparing a hazardous material for shipment performs a function required by this part, that person shall perform the function in accordance with this part.

(d) In general, the Hazardous Materials Regulations (HMR) contained in this subchapter are based on the UN Recommendations and are consistent with international regulations issued by the International Civil Aviation Organization (ICAO Technical Instructions) and the International Maritime Organization (IMDG Code). However, the HMR are not consistent in all respects with the UN Recommendations, the ICAO Technical Instructions or the IMDG Code, and compliance with the HMR will not guarantee acceptance by regulatory bodies outside of the United States.

[Amdt. 173-94, 41 FR 16062, Apr. 15, 1976, as amended by Amdt. 173-100, 41 FR 40476, Sept. 20, 1976; Amdt. 173-161, 48 FR 2655, Jan. 20, 1983; Amdt. 173-224, 55 FR 52606, Dec. 21, 1990; Amdt. 173-231, 57 FR 20953, May 15, 1992; 64 FR 10776, Mar. 5, 1999]

Subpart A—General

§ 173.1 Purpose and scope.

- (a) This part includes:
 - (1) Definitions of hazardous materials for transportation purposes;
 - (2) Requirements to be observed in preparing hazardous materials for shipment by air, highway, rail, or water, or any combination thereof; and
 - (3) Inspection, testing, and retesting responsibilities for persons who retest, recondition, maintain, repair and rebuild containers used or intended for use in the transportation of hazardous materials.
- (b) A shipment of hazardous materials that is not prepared in accordance with this subchapter may not be offered for transportation by air, highway, rail, or water. It is the responsibility of each hazmat employer subject to the requirements of this subchapter to ensure that each hazmat employee is trained in accordance with the requirements prescribed in this subchapter. It is the duty of each person who offers hazardous materials for transportation to instruct each of his officers, agents, and employees having any responsibility for preparing haz-

§ 173.2 Hazardous materials classes and index to hazard class definitions.

The hazard class of a hazardous material is indicated either by its class (or division) number, its class name, or by the letters "ORM-D". The following table lists class numbers, division numbers, class or division names and those sections of this subchapter which contain definitions for classifying hazardous materials, including forbidden materials.

Class No.	Division No. (if any)	Name of class or division	49 CFR reference for definitions
None		Forbidden materials	173.21
None		Forbidden explosives	173.54
1	1.1	Explosives (with a mass explosion hazard)	173.50
1	1.2	Explosives (with a projection hazard)	173.50
1	1.3	Explosives (with predominately a fire hazard)	173.50
1	1.4	Explosives (with no significant blast hazard)	173.50
1	1.5	Very insensitive explosives; blasting agents	173.50
1	1.8	Extremely insensitive detonating substances	173.50
2	2.1	Flammable gas	173.115
2	2.2	Non-flammable compressed gas	173.115
2	2.3	Poisonous gas	173.115
3		Flammable and combustible liquid	173.120
4	4.1	Flammable solid	173.124
4	4.2	Spontaneously combustible material	173.124
4	4.3	Dangerous when wet material	173.124

Class No.	Division No. (if any)	Name of class or division	49 CFR reference for definitions
5	5.1	Oxidizer	173.127
5	5.2	Organic peroxide	173.128
6	6.1	Poisonous materials	173.132
6	6.2	Infectious substance (Etiologic agent)	173.134
7		Radioactive material	173.403
8		Corrosive material	173.136
9		Miscellaneous hazardous material	173.140
None		Other regulated material: ORM-D	173.144

[Amdt. 173-224, 55 FR 52606, Dec. 21, 1990, as amended at 57 FR 45460, Oct. 1, 1992; Amdt. 173-234, 58 FR 51531, Oct. 1, 1993]

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

(a) *Classification of a material having more than one hazard.* Except as provided in paragraph (c) of this section, a material not specifically listed in the § 172.101 table that meets the definition of more than one hazard class or division as defined in this part, shall be classed according to the highest applicable hazard class of the following hazard classes, which are listed in descending order of hazard:

- (1) Class 7 (radioactive materials, other than limited quantities).
- (2) Division 2.3 (poisonous gases).
- (3) Division 2.1 (flammable gases).
- (4) Division 2.2 (nonflammable gases).
- (5) Division 6.1 (poisonous liquids), Packing Group I, poisonous-by-inhalation only.
- (6) A material that meets the definition of a pyrophoric material in

§ 173.124(b)(1) of this subchapter (Division 4.2).

(7) A material that meets the definition of a self-reactive material in § 173.124(a)(2) of this subchapter (Division 4.1).

(8) Class 3 (flammable liquids), Class 8 (corrosive materials), Division 4.1 (flammable solids), Division 4.2 (spontaneously combustible materials), Division 4.3 (dangerous when wet materials), Division 5.1 (oxidizers) or Division 6.1 (poisonous liquids or solids other than Packing Group I, poisonous-by-inhalation). The hazard class and packing group for a material meeting more than one of these hazards shall be determined using the precedence table in paragraph (b) of this section.

(9) Combustible liquids.
(10) Class 9 (miscellaneous hazardous materials).

(b) *Precedence of hazard table for Classes 3 and 8 and Divisions 4.1, 4.2, 4.3, 5.1 and 6.1.* The following table ranks those materials that meet the definition of Classes 3 and 8 and Divisions 4.1, 4.2, 4.3, 5.1 and 6.1:

PRECEDENCE OF HAZARD TABLE

[Hazard class and packing group]

	4.2	4.3	5.1 I ¹	5.1 II ¹	5.1 III ¹	6.1, I dermal	6.1, I oral	6.1 II	6.1 III	8, I liquid	8, I solid	8, II liquid	8, II solid	8, III liquid	8, III solid
3 I						3	3	3	3	3	(3)	3	(3)	3	(3)
3 II						3	3	3	3	8	(3)	3	(3)	3	(3)
3 III						6.1	6.1	6.1	3*	8	(3)	8	(3)	3	(3)
4.1 II ²	4.2	4.3	5.1	4.1	4.1	6.1	6.1	4.1	4.1	(3)	8	(3)	4.1	(3)	4.1
4.1 III ²	4.2	4.3	5.1	4.1	4.1	6.1	6.1	6.1	4.1	(3)	8	(3)	8	(3)	4.1
4.2 II		4.3	5.1	4.2	4.2	6.1	6.1	4.2	4.2	8	8	4.2	4.2	4.2	4.2
4.2 III		4.3	5.1	5.1	4.2	6.1	6.1	6.1	4.2	8	8	8	8	4.2	4.2
4.3 I			5.1	4.3	4.3	6.1	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
4.3 II			5.1	4.3	4.3	6.1	4.3	4.3	4.3	8	8	4.3	4.3	4.3	4.3
4.3 III			5.1	5.1	4.3	6.1	6.1	6.1	4.3	8	8	8	8	4.3	4.3
5.1 I ¹						5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
5.1 II ¹						6.1	5.1	5.1	5.1	8	8	5.1	5.1	5.1	5.1
5.1 III ¹						6.1	6.1	6.1	5.1	8	8	8	8	5.1	5.1
6.1 I, Dermal										8	6.1	6.1	6.1	6.1	6.1
6.1 I, Oral										8	6.1	6.1	6.1	6.1	6.1
6.1 II, Inhalation										8	6.1	6.1	6.1	6.1	6.1
6.1 II, Dermal										8	6.1	8	6.1	6.1	6.1
6.1 II, Oral										8	8	8	6.1	6.1	6.1

specified therein. However, no person may use a packaging under the authority of this paragraph unless he maintains a copy of the exemption at each facility where the packaging is being used in connection with the shipment or transportation of the hazardous material concerned. Copies of exemptions may be obtained from the Associate Administrator for Hazardous Materials Safety, U.S. Department of Transportation, Washington, DC 20590-0001, Attention: Docket Section.

(c) When an exemption issued to a person who offers a hazardous material contains requirements that apply to a carrier of the hazardous material, the offeror shall furnish a copy of the exemption to the carrier before or at the time a shipment is tendered.

[Amdt. 173-93, 41 FR 3478, Jan. 23, 1976, as amended by Amdt. 173-121, 43 FR 48643, Oct. 19, 1978; Amdt. 173-223, 55 FR 39981, Oct. 1, 1990; Amdt. 173-224, 56 FR 66279, Dec. 20, 1991; Amdt. 173-233, 58 FR 33305, June 16, 1993; Amdt. 173.249, 61 FR 21102, May 9, 1996; Amdt. 173-249, 61 FR 51242, Oct. 1, 1996].

§ 173.23 Previously authorized packaging.

(a) When the regulations specify a packaging with a specification marking prefix of "DOT," a packaging marked prior to January 1, 1970, with the prefix of "ICC" may be used in its place if the packaging otherwise conforms to applicable specification requirements.

(b) [Reserved]

(c) After July 2, 1982, a seamless aluminum cylinder manufactured in conformance with and for use under DOT special permit (SP) or exemption (E) 6498, 7042, 8107, 8364 or 8422 may be continued in use if marked before or at the time of the next retest with either the specification identification "3AL" immediately above the special permit or exemption number, or the DOT mark (e.g., DOT 3AL 1800) in proximity to the special permit or exemption marking.

(d) Cylinders (spheres) manufactured and marked under DOT special permit (SP) or exemption (E) 6616 prior to January 1, 1983, may be continued in use if marked before or at the time of the next retest with the specification iden-

tification "4BA" near the special permit or exemption marking.

(e) After October 1, 1984, cylinders manufactured for use under special permit (SP) or exemption (E) 6668 or 8404 may be continued in use, and must be marked "DOT-4LXXXYY" (XXX to be replaced by the service pressure, YY to be replaced by the letters "AL", if applicable) in compliance with Specification 4L (§178.57 of this subchapter) on or before January 1, 1986. The "DOT-4LXXXYY" must appear in proximity to other required special permit or exemption markings.

(f) An MC 331 cargo tank motor vehicle must conform to structural integrity requirements in §178.337-3 or to corresponding requirements in effect at the time of manufacture.

(g) A non-bulk packaging manufactured, tested, marked, and certified on or before September 30, 1996, in accordance with the applicable provisions of subparts L and M of part 178 of this subchapter in effect on September 30, 1995, may be used as authorized by this subchapter if the packaging conforms to all requirements applicable at the time of manufacture. In addition, such a packaging may be reused as authorized by §173.28 without a nominal thickness marking, if it conforms to the minimum thickness criteria prescribed in §173.28(b)(4).

[Amdt. 173-3, 33 FR 14921, Oct. 4, 1968]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 173.23, see the List of CFR Sections Affected appearing in the Finding Aids section of this volume.

§ 173.24 General requirements for packagings and packages.

(a) Applicability. Except as otherwise provided in this subchapter, the provisions of this section apply to—

- (1) Bulk and non-bulk packagings;
- (2) New packagings and packagings which are reused; and
- (3) Specification and non-specification packagings.

(b) Each package used for the shipment of hazardous materials under this subchapter shall be designed, constructed, maintained, filled, its contents so limited, and closed, so that under conditions normally incident to transportation—