DEPARTMENT OF TRANSPORTATION
HAZARDOUS MATERIALS REGULATIONS BOARD
WASHINGTON, D.C. 20590

Hazardous Materials Regulations Board

[49 CFR Parts 172, 173, 177, 178]

[Docket No. HM-9; Notice No. 68-7]

TRANSPORTATION OF HAZARDOUS MATERIALS

Notice of Proposed Rule Making

The purpose of this notice is to request public comment on several miscellaneous amendments proposed by industry and Government agencies for the transportation of hazardous materials. Interested persons are invited to participate in the making of these proposed rules by submitting written data, views, or arguments as they may desire. Communications should identify the regulatory docket and notice number and be submitted in duplicate to the Secretary, Hazardous Materials Regulations Board, Department of Transportation, 400 Sixth Street SW., Washington, D.C. 20590.

Communications received before February 18, 1969, will be considered by the Board before taking final action on the notice. All comments will be available [illegible] examination by interested persons at [illegible] Office of the Secretary of the Board, [illegible] before and after the closing date [illegible] comments. The proposals contained in this notice may be changed in light of comments received.

Many of the proposed changes in this notice are required to provide for the use of two new containers covered by §§ 178.24a and 178.120; and to authorize the use of 4BW cylinders where 4BA cylinders are now permitted.

The proposed amendment to § 172.5 will update the descriptions and keep the commodity list current. The amendment to § 173.8 provides the current title for the former Board of Transport Commissioners for Canada. Section 173.24 would be amended to provide that the polyethylene used in packages be of a type compatible with and nonpermeable to the lading. The table in § 173.34 would be amended by adding DOT 4BW cylinders in all places where DOT 4BA cylinders are mentioned. Section 173.119 would be amended by canceling the note in paragraph (a)(16) and changing the text to permit use of certain DOT Specification 17E drums in L-C-L and L-T-L shipments; paragraph (m)(6) would be amended by providing a new DOT Specification 2E polyethylene bottle in place of the nonspecification polyethylene bottles now permitted. Section 173.123 would be amended to provide for the carriage of ethylchloride in DOT Specification 51 portable tanks, and to specify an outage of 7.5 percent or more at 70° F. for all [illegible]ainers except tank cars and for an [illegible]e of 4.2 percent or more at 70° F. [illegible] tank cars. The amendment to [illegible] 173.124 would change paragraph (a)(2) to provide that eductor tubes must be installed in all containers over 5-gallon capacity used for ethylene oxide instead of the 1-gallon capacity now required. Section 173.128 would be amended by adding a new paragraph (a)(5) to authorize certain paints and related materials to be shipped in 17M steel drums. Section 173.139 would be amended by adding a new paragraph (a)(6) to permit DOT Specification 4BA240 cylinder for propylene imine inhibited only. The amendment to § 173.206 will authorize the use of DOT Specification 51 portable tanks having a minimum design pressure of 150 p.s.i. for the transportation of sodium metallic. The amendment to § 173.217 will provide for the use of certain DOT Specification 21C fiber drums with interior aluminum facings as co[illegible]ners for calcium hypochlorite compounds, dry. Section 173.221 would be amended by changing paragraph (a)(3) to provide for a new DOT Specification 2E polyethylene bottle in lieu of the nonspecification polyethylene bottle now provided; paragraph (a)(11) would be added to provide for a DOT Specification 16A wooden box with inside Specification 2U, 2S, or 2SL polyethylene containers not over 5-gallon capacity each; new paragraph (a)(12) will provide for a nonreusable DOT Specification 21P fiber drum overpack with inside Specifications 2U, 2S, and 2SL polyethylene containers of not over 15-gallon capacity. The proposed amendments to § 173.247 provide for shipment of vanadium tetrachloride and vanadium oxytrichloride under the packing requirements of a new paragraph (b); paragraph (a)(7) adds a DOT Specification 5 metal barrel as an authorized shipping container; and new paragraph (a)(17) would authorize Specifications 4BA240 and 4BW240 cylinders as containers for titanium tetrachloride. Section 173.264 for hydrochloric acid would be amended by changing paragraph (a)(2) and (4) to provide for a new DOT Specification 2E polyethylene bottle in place of the nonspecification polyethylene bottle now permitted; and paragraph (b)(6) adds an additional tank car Specification 110A500W. It is proposed to amend § 173.265 by providing a new Specification 2E inside polyethylene bottle and a Specification 34 polyethylene container for the shipment of hydrofluorsilicic acid.

Section 173.266 would be amended to provide for a new Specification 2E inside polyethylene bottle in lieu of the present nonspecification polyethylene bottle and to add the Specification 34 polyethylene container for shipments of hydrogen peroxide solution in water.

Proposed amendments to §§ 173.283, 173.284, and 173.285 add Specification 4BW240 cylinder as an authorized container for bromine trifluoride, bromine pentafluoride and chlorine trifluoride. The proposed amendment to § 173.287 provides for a new Specification 2E polyethylene bottle for the shipment of chromic acid solution in lieu of a nonspecification polyethylene inside container now provided.

Section 173.288 is proposed to be amended by adding a new paragraph to authorize the use of Specifications 6D and 37M nonreusable steel overpacks with inside Specification 2S, 2SL, or 2ST polyethylene containers for shipment of ethylchloroformate and methylchloroformate.

Section 173.299 would be amended to provide for Specification 2E inside polyethylene bottle in lieu of the nonspecification inside polyethylene bottle for the packaging of etching acid liquid, n.o.s.

Proposed amendments to §§ 173.302, 173.304, 173.329, 173.334, and 173.353 add DOT-4BW in all places where DOT-4BA appears. This DOT-4BW cylinder is comparable to the DOT-4BA cylinder. Section 173.348 would be changed by amending paragraph (a)(3) to provide for a new Specification 2E inside polyethylene bottle in lieu of the presently authorized nonspecification polyethylene bottle for arsenic acid. Paragraph (f) of § 173.404 is canceled because it is no longer applicable.

Section 177.817 would be amended by changing paragraph (b) to be consistent with § 173.427. Section 177.820 will be canceled because the color or kind of label applied to packages is no longer required to be shown on the shipping papers. The other information presently required in this section is covered in § 177.817.

Part 178 would be amended by adding a new § 178.24a to cover the specifications for a new DOT Specification 2E inside polyethylene bottle. A new § 178.120 would be added to cover the non-reusable DOT Specification 17M steel drum.

These amendments are proposed under the authority of title 18, United States Code, sections 831-835, and section 9 of the Department of Transportation Act (49 USC 1657).

In consideration of the foregoing, it is proposed to amend Title 49 of the Code of Federal Regulations as hereinafter set forth.

Issued in Washington, D.C., on November 13, 1968.

W. J. SMITH,
Commandant,
U.S. Coast Guard.

Issued in Washington, D.C., on November 13, 1968.

SAM SCHNEIDER,
Board Member, For the
Federal Aviation Administration.

Issued in Washington, D.C., on November 13, 1968.

JOHN R. JAMIESON,
Deputy Administrator,
Federal Highway Administration.

Issued in Washington, D.C., on November 13, 1968.

A. SCHEFFER LANG,
Administrator,
Federal Railroad Administration.

I. Part 172 would be amended as follows:

§ 172.5 [Amended]

(A) By amending paragraph (a) *Commodity List* of § 172.5 *List of explosives and other dangerous articles* by making the following change and additions:

Article	Classed as—	Exemptions and packing (see sec.)	Label required if not exempt	Maximum quantity in 1 outside container by rail express
Change				
Hydrazine solution (containing 50 percent or less of water).	Cor. L	No exemption, 173.276.	White	5 pints.
Add				
Liquid caustic soda. See: Caustic soda, liquid.				
Vanadium oxytrichloride	Cor. L	173.244, 173.247(b).	White	25 pounds.
Vanadium tetrachloride	Cor. L	173.244, 173.247(b).	White	25 pounds.

II. Part 173 would be amended as follows:

(A) By amending the Table of Contents, § 173.247, to read as follows:

Sec.
173.247 Acetyl chloride, antimony pentachloride, benzoyl chloride, chromyl chloride, pyro sulfuryl chloride, silicon chloride, sulfur chloride (mono and di), sulfuryl chloride, thionyl chloride, tin tetrachloride (anhydrous), titanium tetrachloride, vanadium tetrachloride, and vanadium oxytrichloride.

(B) By amending paragraphs (a) and (b) of § 173.8; cancel paragraph (a) Note 1 as follows:

§ 173.8 Canadian shipments.

(a) Shipments of hazardous materials which conform to the regulations of the Canadian Transport Commission (formerly the Board of Transport Commissioners for Canada), may be transported from the point of entry in the United States to their destination in the United States, or through the United States enroute to a point in Canada.

NOTE 1 [Canceled]

(b) Specification containers made and maintained in full compliance with the corresponding specifications prescribed by the Railway Transport Committee of the Canadian Transport Commission (formerly the Board of Transport Commissioners for Canada) in its regulations for the Transportation of Dangerous Commodities by Rail, and marked in accordance therewith (e.g., BTC, RTC, etc.) may be used for the shipment of hazardous materials within the United States.

(C) By adding paragraph (c)(9) in § 173.24 to read as follows:

§ 173.24 Standard requirements for all packages.

* * * * *

(c) * * *

(9) Polyethylene used shall be of a type compatible with and nonpermeable to the lading.

* * * * *

(D) By amending the table in paragraph (e); by amending paragraph (e)(9), (10) Table, and (14) of § 173.34 to read as follows:

§ 173.34 Qualification, maintenance, and use of cylinders.

* * * * *

(e) * * *

Specification under which cylinder was made	Minimum retest pressure (p.s.i.)	Retest period (years)
* * *	* * *	* * *
DOT-4B, 4BA, 4BW, 4B240ET.	2 times service pressure, except noncorrosive service (see § 173.34(e)(9) and (e)(10).	5.
* * *	* * *	* * *

* * * * *

(9) Cylinders made in compliance with specifications DOT-4B, DOT-4BA, DOT-4BW, and DOT-26-300[1] (§§ 178.50, 178.51, 178.61 of this chapter) used exclusively for anhydrous dimethylamine, anhydrous monomethylamine, anhydrous trimethylamine, methyl chloride, liquefied petroleum gas, or dichlorodifluoromethane, difluoroethane difluoromonochloroethane, monochlorodifluoromethane, monochlorotetrafluoroethane, monochlorotrifluorethylene or mixtures thereof or mixtures of one or more with trichloromonofluoromethane, commercially free from corroding components, and protected externally by suitable corrosion resisting coatings (such as galvanizing, painting, etc.) may be retested decennially (see Note 2) instead of quinquennially, or, such cylinders may be subjected to an internal hydrostatic pressure equal to at least two times the marked service pres-

sure without determination of expansions (see Note 1), but this type of test must be repeated quinquennially after expiration of the first 10-year period (see Note 2). When subjected to this latter test cylinders must be carefully examined under the test pressure and removed from service if leaks or other harmful defects exist. All tests must be supplemented by a very careful examination of the cylinder at each filling, and must be rejected if evidence is found of bad dents, corroded areas, a leak or other conditions that indicate possible weakness which would render the cylinder unfit for service.

(No change in Notes 1 and 2.)

(10) * * *

Cylinders made in compliance with—	*Used exclusively for—*
DOT-3A480, DOT-3AA480, DOT-3A480X, DOT-3B, DOT-4B, DOT-4BA, DOT-4BW, ICC-26-240,[1] or ICC-26-300.[1]	Liquefied petroleum gas which is commercially free from corroding components.
DOT-4, DOT-3A480, DOT-3AA480, DOT-3A480X, DOT-4A480, or DOT-4AA480.	Anhydrous ammonia of at least 99.95 percent purity.
DOT-3A480, DOT-3AA480, DOT-3A480X, DOT-4B300, DOT-4BA300, or DOT-4BW300.	Fluorinated hydrocarbons and mixtures thereof which are commercially free from corroding components.
DOT-3A480, DOT-3AA480, DOT-3A480X, DOT-3B, DOT-4B, DOT-4BA, DOT-4BW, ICC-26-240,[1] or ICC-26-300.[1]	Butadiene, inhibited, which is commercially free from corroding components.
DOT-3A480, DOT-3AA480, DOT-3A480X, DOT-3B, DOT-4B, DOT-4BA, DOT-4BW, ICC-26-240,[1] or ICC-26-300.[1]	Liquefied hydrocarbon gas which is commercially free from corroding components.

[1] Use of existing cylinders authorized, but new construction not authorized.

* * * * *

(14) Cylinders made in compliance with specifications DOT-3A, DOT-3AA, DOT-3B, DOT-4A, DOT-4BA, and DOT-4BW (§§ 178.36, 178.37, 178.38, 178.49, 178.51, 178.61 of this chapter) having service pressures up to and including 300 p.s.i., used exclusively for methyl bromide, liquid, mixtures of methyl bromide and ethylene dibromide, liquid, mixtures of methyl bromide and chlorpicrin, liquid, mixtures of methyl bromide and petroleum solvents, liquid, or methyl bromide and nonflammable, nonliquefied compressed gas mixtures, liquid, commercially free from corroding components, and protected externally by suitable corrosion resisting coatings (such as galvanizing, painting, etc.) and internally by a suitable corrosion resisting lining (galvanized, etc.) may be tested decennially instead of quinquennially. All tests must be supplemented by a visual internal and external examination of the cylinder quinquennially. Examination shall be as required by the Compressed Gas Association's "Standard for Visual Inspection of Compressed Gas Cylinders." (CGA Pamphlet C-6-1968, available from the Compressed Gas Association, Inc., 500 Fifth Avenue, New York, N.Y. 10036.) All tests must be supplemented by a very careful examination of the cylinder at each filling, and the cylinder must be rejected if evidence is found of bad dents, corroded areas, a leak or other conditions that indicate possible weakness which would render the cylinder unfit for service.

* * * * *

(E) By amending paragraphs (a)(16) and (m)(6); cancel Note 1 following paragraph (m)(6); in § 173.119 as follows:

§ 173.119 Flammable liquids not specifically provided for.

(a) * * *

(16) Spec. 17E (§ 178.116 of this chapter). Metal drums (single-trip), not over 55-gallon capacity, not less than full 19-gauge body and head sheets for not over 30-gallon drums, and not less than full 18-gauge body and head sheets for not over 55-gallon drums, with openings not exceeding 2.3 inches in diameter. Shipments not authorized by rail express.

NOTE 1 [Canceled]

* * * * *

(m) * * *

(6) Spec. 12B (§ 178.205 of this chapter). Fiberboard boxes with inside specification 2E (§ 178.24a of this chapter) polyethylene bottles not over 1-gallon capacity each. Not more than four 1-gallon polyethylene bottles shall be packed in one outside fiberboard box. Authorized only for material which will not react dangerously with or cause decomposition of polyethylene.

* * * * *

(F) By adding paragraph (a)(7) and amending paragraph (b) of § 173.123 to read as follows:

§ 173.123 Ethyl chloride.

(a) * * *

(7) Spec. 51 (§ 178.245 of this chapter) portable tanks.

(b) Outage for all containers except tank cars must be 7.5 percent or more at 70° F. Outage for tank cars must be 4.2 percent or more at 70° F.

(G) By amending paragraph (a)(2) of § 173.124 to read as follows:

§ 173.124 Ethylene oxide.

(a) * * *

(2) Cylinders as prescribed for any compressed gas, except acetylene, not exceeding 30 gallons water capacity nominal, which meet the following requirements. All cylinders shall be seamless or steel welded. Cylinders shall be equipped with safety devices of the fusible plug type with threaded straight bore orifice, with yield temperature of 157° to 170° F. having a minimum vent area of 0.0055 square inch per pound of water capacity of the container for containers not over 1-gallion capacity and 0.0012 square inch per pound of water capacity of the container for all containers over 1-gallon capacity. Each cylinder must be tested for leakage at a pressure of at least 15 p.s.i. gauge with an inert gas before each refilling. Filling shall be such that the container will not be liquid full at 185° F. Pressurizing valves must be provided for all containers over 1-gallon capacity. Eductor tubes must be provided for all containers over 5-gallon capacity. Cylinders having a water capacity in excess of 1 gallon shall be insulated with three coats of heat-retardant paint, of a type approved by the Bureau of Explosives, applied over suitable primer and finished with suitable waterproof paint; or with other equally efficient insulation approved by the Bureau of Explosives.

* * * * *

(H) By adding paragraph (a)(5) in § 173.128 to read as follows:

§ 173.128 Paints and related materials.

(a) * * *

(5) Spec. 17M (§ 178.120 of this chapter) non-reusable steel drums authorized only for materials not exceeding 10 pounds per gallon and having a flash point above 20° F.

* * * * *

(I) By adding paragraph (a)(6) in § 173.139 to read as follows:

§ 173.139 Ethylene imine, inhibited, and propylene imine, inhibited.

(a) * * *

(6) Spec. 4BA240 or 4BW240 (§§ 178.51, 178.61 of this chapter). Cylinder, all-welded construction, for propylene imine, inhibited, only.

(J) By adding paragraph (c)(4) in § 173.206 to read as follows:

§ 173.206 Sodium or potassium, metallic, sodium amide, sodium potassium alloys, sodium aluminum hydride, lithium metal, lithium silicon, lithium ferro silicon, lithium hydride, and lithium aluminum hydride.

* * * * *

(c) * * *

(4) Spec. 51 (§ 178.245 of this chapter). Portable tanks having a minimum design pressure of 150 p.s.i. Tanks must be equipped with safety valves having a start-to-discharge pressure of 150 p.s.i. Black paint is authorized for tanks not provided with exterior heating coils

welded to the tank shell and stress relieved. The material must be in molten condition when loaded and the tank must be held for sufficient time to allow the material to be completely solidified before being offered for transportation. Outage must be 5 percent or more at a sodium fusion temperature of 208° F.

* * * * *

(K) By adding paragraph (a)(5) in § 173.217 to read as follows:

§ 173.217 Calcium hypochlorite compounds, dry, lithium hypochlorite compounds, dry, dichloroisocyanuric acid, dry, potassium dichloroisocyanurate, dry, sodium dichloroisocyanurate, dry, and trichloroisocyanuric acid, dry.

(a) * * *

(5) Spec. 21C (§ 178.224 of this chapter). Fiber drums with integral inner body ply having 0.010-inch minimum aluminum facing and bottom interior with 0.001-inch minimum aluminum facing. Cover of drum shall be gasketed. Authorized net weight not over 400 pounds. Authorized for calcium hypochlorite compounds, dry only.

* * * * *

(L) By amending the introductory text of paragraph (a); by amending paragraph (a)(3); by adding paragraph (a)(11) and (12) in § 173.221 to read as follows:

§ 173.221 Liquid organic peroxides, n.o.s., and liquid organic peroxide solutions, n.o.s., other than acetyl peroxide solution, acetyl benzoyl peroxide solution, cumene hydroperoxide, dicumyl peroxide, hydrogen peroxide, peracetic acid, and tertiary butylisopropyl benzene hydroperoxide.

(a) Commodities cited in the heading of this section must, except as indicated, be packed in specification containers as follows:

* * * * *

(3) Spec. 12B (§ 178.205 of this chapter). Fiberboard box with spec. 2E (§ 178.24a of this chapter) inside polyethylene bottles, or with glass or metal inside receptacles, not over one gallon each. Not more than six 1-gallon polyethylene bottles; or not more than one 1-gallon glass or metal inside container, which must be cushioned with noncombustable packing material in sufficient quantity to absorb the contents of the inner container, shall be packed in one outside fiberboard box. Metal and polyethylene inside containers authorized only for material which will not react dangerously with or be decomposed by contact with metal or polyethylene.

* * * * *

(11) Spec. 16A (§ 178.185 of this chapter). Wooden boxes with inside spec. 2U, 2S, or 2SL (§§ 178.24, 178.35, 178.35a of this chapter) polyethylene containers, not over 5-gallon capacity each. Spec. 2U container must have a minimum wall thickness of 0.015 inch. The polyethylene container must be separated from the wooden box by a complete corrugated fiberboard liner, top pad, and bottom pad. Authorized only for materials which will not react dangerously with or cause decomposition of polyethylene.

(12) Spec. 21P (§ 178.225 of this chapter). Fiber drum overpack with inside spec. 2U, 2S or 2SL (§§ 178.24, 178.35, 178.35a of this chapter) polyethylene container, not over 15-gallon capacity. Each fiber drum must be plainly marked "Nonreusable Container". Authorized only for materials which will not react dangerously with or cause decomposition of polyethylene.

(M) By amending the heading and the introductory text of paragraph (a); by amending paragraph (a)(7); by adding paragraphs (a)(17) and (b) in § 173.247 to read as follows:

§ 173.247 Acetyl chloride, antimony pentachloride, benzoyl chloride, chromyl chloride, pyro sulfuryl chloride, silicon chloride, sulfur chloride (mono and di), sulfuryl chloride, thionyl chloride, tin tetrachloride (anhydrous), titanium tetrachloride, vanadium tetrachloride, and vanadium oxytrichloride.

(a) Commodities cited in the heading of this section, except vanadium tetra- must be packed in specification containers as follows:

* * * * *

(7) Spec. 5, 5A, 5B, or 17C (single-trip) (§§ 178.80, 178.81, 178.82, 178.115 of this chapter). Metal barrels or drums with openings not exceeding 2.3 inches in diameter.

* * * * *

(17) Spec. 4BA240 or 4BW240 (§§ 178.5, 178.61 of this chapter) cylinders authorized for titanium tetrachloride, only.

(b) Vanadium tetrachloride and vanadium oxytrichloride must be packed in specification containers only as follows:

(1) Specs. 4B240, 4BA240 and 4BW240 (§§ 178.50, 178.51, 178.61 of this chapter).

(2) Spec. 51 (§ 178.245 of this chapter) portable tanks.

By amending paragraphs (a)(2) and (4) and (b)(6) of § 173.264 to read as follows:

§ 173.264 Hydrofluoric acid.

(a) * * *

(2) Spec. 12B (§ 178.205 of this chapter). Fiberboard boxes with spec. 2E (§ 178.24a of this chapter) inside polyethylene bottles or inside receptacles of natural rubber or lead, of not over 1-pound capacity each. These containers are authorized only for strengths of acid for which they are adequate, but in not case shall the strength of acid exceed 70 percent.

* * * * *

(4) Spec. 12A or 12B (§§ 178.210, 178.205 of this chapter). Fiberboard boxes with not more than four spec. 2E (§ 178.24a of this chapter) inside polyethylene bottles, having minimum thickness of 0.030-inch thickness of any part, not over 1-gallon nominal capacity each. Bottle closures must be made secure by sealing with pressure-sensitive plastic tape or other equally efficient means. Authorized for acid not over 70 percent strength. Shipper must have established that spec. 12A completed package meets test requirements prescribed by § 178.-210-10 of this chapter. Authorized gross weight for spec. 12B fiberboard boxes not over 65 pounds; spec. 12A not over 80 pounds.

* * * * *

(b) * * *

(6) Spec. 106A500,[1] 106A500X, or 110A500W (§§ 179.300 and 179.301 of this chapter). Tank cars. Tanks shall not be equipped with safety devices of any type and valves shall be protected by metal caps. Tanks shall be filled to a density not exceeding 85 percent of the water-weight capacity of the tank.

(No change in Note 1.)

* * * * *

(O) By amending paragraph (d)(1); by adding paragraph (d)(6) in § 173.265 to read as follows:

§ 173.265 Hydrofluosilicic acid.

* * * * *

(d) * * *

(1) Spec. 12B (§ 178.205 of this chapter). Fiberboard boxes with spec. 2E (§ 178.24a of this chapter) inside polyethylene bottles not over 1-quart capacity each, suitably cushioned to prevent movement within the box. Gross weight of complete package must not exceed 65 pounds.

* * * * *

(6) Spec. 34 (§ 178.19 of this chapter). Polyethylene container without overpack, not over 30-gallon capacity.

(P) By amending paragraph (b)(5); by adding paragraph (b)(8) in § 173.266 to read as follows:

§ 173.266 Hydrogen peroxide solution in water.

* * * * *

(b) * * *

(5) Spec. 12B (§ 178.205 of this chapter). Fiberboard boxes with spec. 2E (§ 178.24a of this chapter) inside polyethylene bottles having vented screw-cap closures not over 16-ounce capacity each. Each bottle must be completely contained in a securely closed polyethylene bag or tube constructed of material having minimum film thickness of 0.004 inch. Enclosed bottles must be separated from each other by use of fiberboard partitions or other suitable cushioning material and not more than 12 bottles shall be packaged in one box.

* * * * *

(8) Spec. 34 (§ 178.19 of this chapter). Polyethylene container without overpack, not over 30-gallon, capacity. A closure of each container must be vented to prevent accumulation of internal pressure and the head with the closure must be marked "Keep This End Up."

* * * * *

(Q) by amending paragraph (a) (1) of § 173.283 to read as follows:

§ 173.283 Bromine trifluoride.

(a) * * *

(1) Spec. 3A150, 3AA150, 3B240, 4B240, 4BA240, 4BW240, or 3E1800 cylinders (§§ 178.36, 178.37, 178.38, 178.50, 178.51, 178.61, 178.42 of this chapter). Outlets of valves must be capped or plugged and cylinders must be equipped with valve protection caps, except that spec. 3E1800 cylinders must be packed in strong wooden boxes.

* * * * *

(R) By amending paragraph (a) (1) of § 173.284 to read as follows:

§ 173.284 Bromine pentafluoride.

(a) * * *

(1) Spec. 3A150, 3AA150, 3B240, 4B240, 4BA240, 4BW240, or 3E1800 cylinders (§§ 178.36, 178.37, 178.38, 178.50, 178.51, 178.61, 178.42 of this chapter). Outlets of valves must be capped or plugged and cylinders must be equipped with valve protection caps, except that spec. 3E1800 cylinders must be packed in strong wooden boxes.

* * * * *

(S) By amending paragraph (a) (1) of § 173.285 to read as follows:

§ 173.285 Chlorine trifluoride.

(a) * * *

(1) Spec. 3A150, 3AA150, 3B240, 4B240, 4BA240, 4BW240, or 3E1800 cylinders (§ 178.36, § 178.37, § 178.38, § 178.50, § 178.51, § 178.61 or § 178.42 of this chapter). Outlets of valves must be capped or plugged and cylinders must be equipped with valve protection caps, except that spec. 3E1800 cylinders must be packed in strong wooden boxes.

* * * * *

(T) By amending paragraph (a) (5) in § 173.287 to read as follows:

§ 173.287 Chromic acid solution.

(a) * * *

(5) Spec. 12B (§ 178.205 of this chapter). Fiberboard boxes with spec. 2E (§ 178.24a of this chapter) inside polyethylene bottles having a minimum wall thickness of 0.015 inch and so designed as to maintain their configuration when standing empty and open (see § 178.205–24 of this chapter). Not more than one inside container shall be packed in one inside box.

(U) By adding paragraph (d) in § 173.288 to read as follows:

§ 173.288 Allyl chloroformate, benzyl chloroformate, ethyl chloroformate, and methyl chloroformate.

* * * * *

(d) Spec. 6D or 37M (§§ 178.102, 178.134 of this chapter). Nonreusable cylindrical steel overpacks with inside spec. 2S, 2SL, or 2T (§§ 178.35, 178.35a, 178.21 of this chapter) polyethylene container. Authorized for ethyl chloroformate and methyl chloroformate only.

(V) By amending paragraph (a) (1) of § 173.299 to read as follows:

§ 173.299 Etching acid liquid, n.o.s.

(a) * * *

(1) Spec. 12A (§ 178.210 of this chapter). Fiberboard boxes with spec. 2E (§ 178.24a of this chapter) inside polyethylene bottles having a minimum wall thickness of 0.030 inch and screw-cap closures. Net weight in inside containers shall not be over 10 pounds each and net weight in outside containers shall not be more than 40 pounds.

§ 173.301 [Amended]

(W) By amending the table in paragraph (h) in § 173.301 by adding "DOT–4BW" in the second column of table as the 10th entry.

(X) By amending paragraph (a) (1) of § 173.302 to read as follows:

§ 173.302 Charging of cylinders with non-liquefied compressed gases.

(a) * * *

(1) Spec. 3,[1] 3A, 3AA, 3B, 3C, 3D, 3E, 4, 4A, 4B, 4BA, 4BW, 4C, 7,[1] 25,[1] 26,[1] 33,[1] or 38[1] (§§ 178.36, 178.37, 178.38, 178.40, 178.41, 178.42, 178.48, 178.49, 178.50, 178.51, 178.61, 178.52 of this chapter). (See §§ 173.34 and 173.301(e).)

(Note 1 remains unchanged.)

* * * * *

(Y) In § 173.304 by amending the table in paragraph (a) (2), third column, by adding "DOT–4BW" following each entry of "ICC–4BA" and using the same service pressure indicated for ICC–4BA entry. Also in § 173.304 by amending paragraph (a) (1) to read as follows:

§ 173.304 Charging of cylinders with liquefied compressed gas.

(a) * * *

(1) Spec. 3,[1] 3A, 3AA, 3B, 3BN, 3D, 3E, 4, 4A, 4B, 4BA, 4B–ET, 4BW, 9, 25,[1] 26,[1] 38,[1] 40 or 41 (§§ 178.36, 178.37, 178.38, 178.39, 178.41, 178.42, 178.48, 178.49, 178.50, 178.51, 178.55, 178.61, 178.63, 178.66, 178.67 of this chapter), except that specs. 9, 40, and 41 containers must not be charged and shipped with mixtures containing pyroforic liquids, n.o.s., carbon bisulfide (disulfide), ethyl chloride, ethylene oxide, nickel carbonyl, spirits of nitroglycerin, or poisonous materials, class A, B, or C, as defined by these regulations, unless specifically prescribed in this part. (See §§ 173.34 and 173.301(e).)

* * * * *

(Z) By amending paragraphs (b) (1) and (c) (1) of § 173.329 to read as follows:

§ 173.329 Bromacetone; chlorpicrin and methyl chloride mixtures; chlorpicrin and nonflammable, nonliquefied compressed gas mixtures.

* * * * *

(b) * * *

(1) Spec. 3A, 3AA, 3B, 3C, 3E, 4A, 4B, 4BA, 4BW, or 4C (§ 178.36, § 178.37, § 178.38, § 178.40, § 178.42, § 178.49, § 178.50, § 178.51, § 178.61 or § 178.52 of this chapter) not over 250 pounds water capacity (nominal). Valves or other closing devices must be protected, to prevent injury in transit, by screw-on metal caps or by packing the cylinders in strong boxes or crates. Cylinders having a wall thickness of less than 0.10 inch must be packed in boxes or crates (see 173.25).

(c) * * *

(1) Spec. 3A, 3AA, 3B, 3C, 3E, 4A, 4B, 4BA, 4BW, or 4C (§ 178.36, § 178.37, § 178.38, § 178.40, § 178.42, § 178.49, § 178.50, § 178.51, § 178.61, or § 178.52 of this chapter) not over 250-pound water capacity (nominal). Valves or other closing devices must be protected, to prevent injury in transit, by screw-on metal caps or by packing the cylinders in strong boxes or crates. Cylinders having a wall thickness of less than 0.10 inch must be packed in boxes or crates (see § 173.25).

(AA) By amending paragraph (a) (1) of § 173.334 to read as follows:

§ 173.334 Hexaethyl tetraphosphate, parathion, tetraethyl dithio pyrophosphate, tetraethyl pyrophosphate, or other class B poison organic phosphate mixtures, n.o.s., mixed with compressed gas.

(a) * * *

(1) Spec. 3A300, 3AA300, 3B300, 4A300, 4B240, 4BA240, or 4BW240 (§ 178.36, § 178.37, § 178.38, § 178.49, § 178.50, § 178.51, or § 178.61 of this chapter). Metal cylinders, charged with not more than 10 pounds of the mixture and to a maximum filling density of 80 percent of the water capacity. Cylinders must not be equipped with eduction tubes or fusible plugs. Valves must be of a type approved by the Bureau of Explosives.

* * * * *

(BB) By amending paragraph (a) (3) of § 173.348 to read as follows:

§ 173.348 Arsenic acid.

(a) * * *

(3) Spec. 12A or 12B (§§ 178.210, 178.205 of this chapter). Fiberboard boxes with spec. 2E (§ 178.24a of this chapter) inside polyethylene bottles made of high-density (Type III) polyethylene having minimum wall thickness of 0.015 inch with screwcap closures, not over 1-gallon capacity each. Spec. 12A fiberboard boxes shall have not more than four inside

polyethylene bottles which shall be packed to provide a snug fit. Spec. 12B fiberboard boxes shall contain not more than one inside polyethylene bottle and not more than four such boxes shall be overpacked in a strong outside fiberboard box under provisions of § 173.25.

(CC) By amending paragraph (a)(3) of § 173.353 to read as follows:

§ 173.353 Methyl bromide, liquid (bromomethane), mixtures of methyl bromide and ethylene dibromide, liquid, mixtures of methyl bromide and chlorpicrin, liquid, or methyl bromide and nonflammable, nonliquefied compressed gas mixtures, liquid.

(a) * * *

(3) Spec. 3A225, 3AA225, 3B225, 3E1800, 4A225, 4B225, 4BA225, or 4BW225 (§§ 178.36, 178.37, 178.38, 178.42, 178.49, 178.50, 178.51, 178.61 of this chapter). Metal cylinders. Valves or other closing devices must be protected to prevent injury in transit by screw-on metal caps or by packing the cylinders in strong boxes or crates. Cylinders having a wall thickness or less than 0.08 inch must be packed in boxes or crates (see § 173.25).

* * * *

.404 [Amended]

(DD) By canceling paragraph (f) in § 173.404.

III. Part 177 would be amended as follows:

(A) By canceling § 177.820 in the Table of Contents which now reads as follows:

Sec.
177.820 Waybills, manifests, etc.

(B) By amending paragraph (b) of § 177.817 to read as follows:

§ 177.817 Shipping papers.

* * * * *

(b) Where the regulations (except §§ 173.402 and 177.815 of this chapter) exempt the packages from labeling the exemption must be indicated by the words "No Label Required" immediately following the description on the shipping paper.

§ 177.820 [Canceled]

(C) By canceling § 177.820 in its entirety.

IV. Part 178 would be amended as follows:

(A) By adding §§ 178.24a and 178.120 to the Table of Contents to read as follows:

Sec.
178.24a Specification 2E; inside polyethylene bottle.
178.120 Specification 17M; steel drum. Nonreusable container. Open-head not authorized.

(B) by adding § 178.24a to read as follows:

§ 178.24a Specification 2E; inside polyethylene bottle.

§ 178.24a–1 General requirements.

(a) Each bottle must meet the applicable requirements of § 173.24 of this chapter.

§ 178.24a–2 Rated capacity.

(a) Maximum capacity must be not more than 5 quarts (4.73 liters).

§ 178.24a–3 Materials of construction.

(a) Each bottle must be made of blow-molded polyethylene, constructed so that it will maintain its shape when standing empty and open.

(b) Minimum wall thickness must not be less than 0.008 inch (0.2 millimeters).

(c) Polyethylene must have the following properties:

TABLE

Property	Type I	Type II	Type III
Density, g/cc.	0.910–<0.926	0.926–<0.941	0.941–0.965
Melt index	2.0 maximum.	1.0 maximum.	1.0 maximum.
Tensile strength.	1,500 p.s.i. minimum.	1,800 p.s.i.	3,000 p.s.i.
Elongation	400% minimum.	400%	75%

§ 178.24a–4 Closure.

(a) Closing devices must provide a tight seal. Vented closures are not authorized unless otherwise provided for in Part 173 of this chapter.

§ 178.24a–5 Tests.

(a) Each bottle must be capable of withstanding the prescribed tests without breaking or leaking.

(b) The test prescribed in paragraph (d)(1) of this section must be made on at least three random sample bottles for each 1,000 bottles produced by each blow-molding machine. The test must be performed at the start of initial production from each blow-molding machine and upon any change in type of polyethylene or process method.

(c) The test prescribed in paragraph (d)(2) of this section must be made at least once each month on a minimum of three random sample bottles produced and upon any change in type of polyethylene or process method.

(d) Prescribed tests:

(1) The bottle, filled to 98 percent of capacity with water, must be dropped from a height of 4 feet onto a solid unyielding surface so as to drop diagonally on the top edge or any other part which is weaker.

(2) The bottle, filled to 98 percent of capacity with a liquid which is compatible with polyethylene and which is liquid at 0° F., must be dropped from a height of 4 feet onto a solid unyielding surface, on any part of the bottle. Immediately prior to the test, the bottle and its contents must have been at a temperature of 0° F. or lower for at least 24 hours.

§ 178.24a–6 Marking.

(a) Marking must be as prescribed in § 173.24 of this chapter.

(b) Marking on the outside of each bottle must be in raised figures at least ¼-inch high as follows: "DOT 2E"; the minimum thickness of the polyethylene in thousandths of inches (mils); and the year of manufacture (e.g., 20–69).

(C) By adding § 178.120 to read as follows:

§ 178.120 Specification 17M; steel drum. Nonreusable container. Open-head not authorized.

§ 178.120–1 General requirements.

(a) Each drum must meet the applicable requirements of § 173.24 of this chapter.

§ 178.120–2 Rated capacity.

(a) Rated capacity is 55 gallons, as marked (see § 178.120–6).

(b) Actual capacity must be the rated capacity plus not more than 5 percent or minus not more than 4 percent.

§ 178.120–3 General construction requirements.

(a) *Chime reinforcement.* The top and bottom chimes must be reinforced with a steel band that is an integral part of the double seam and which provides a chime cross section containing at least eight layers of steel. The reinforcing band must follow and support the knuckle radius of the head with the inside edge upturned so that the edge does not contact the adjacent portions of the head.

(b) *Seams.* The body side seam must be welded.

(c) *Sidewall construction.* A continuous series of parallel, geometrically similar circumferential beads must be expanded in the drum sidewall so that the surface length of the steel in the axial direction does not change more than 1 percent during forming.

(d) *Steel thickness.* (1) The thickness of the body and heads of the finished drum must be at least 24-gauge.

(2) The chime reinforcement must be made of at least 18-gauge steel.

(e) *Heads.* Heads must be flat. Open-head drums are not authorized.

§ 178.120–4 Closure.

(a) The closing part (plug, cap, plate, etc.) must be of steel at least 24-gauge thickness, or other material of equivalent strength. Gaskets are required. Cap seals may be placed over the closure.

(b) For closures with threaded plug or cap, the seat (e.g., flange) for the plug or cap must have three or more threads. Two drainage holes of not over $\frac{1}{16}$-inch diameter are authorized. The plug or cap must have a sufficient length of thread to engage at least three threads when securely tightened with the gasket in place.

(e) The maximum permitted closure opening is 2.7 inches in diameter.

§ 178.120–5 Defective drums.

(a) Defects or damage must be repaired by the method used in constructing the drum. Soldering is not authorized.

§ 178.120–6 Marking.

(a) Marking must be as prescribed in § 173.24 of this chapter.

(b) The marking on each drum must be by embossing on the bottom head with raised marks as follows: "DOT–17M NRC"; and the gauge of the metal of the drum in the thinnest part, the rated capacity of the drum in gallons, and the year of manufacture (e.g., 24–55–69). When the gauge of the metal in the drum wall differs from that in the head, both must be indicated with a slanting line between, and with the gauge of the body indicated first (e.g., 24/22–55–69).

(c) The minimum height of the letters and numerals shall be three-fourths inch.

§ 178.120–7 Tests.

(a) Each drum must be capable of withstanding the prescribed tests without leakage of contents.

(b) Samples which are taken at random and closed as for use must be tested as prescribed in subparagraphs (1) and (2) of this paragraph without leakage. Tests are to be made of each type and size by each manufacturer starting production and are to be repeated at least every 4 months thereafter. The samples last tested must be retained by the manufacturer until further tests are made or for 1 year, whichever period is shorter.

(1) *Drop test.* Test by dropping, filled with water to 98 percent capacity, from a height of 4 feet onto a solid unyielding surface (e.g., concrete or steel) so as to strike the surface diagonally on the chime. Additional similar drops must be made on any other parts of the drum which might be considered weaker than the chime. Closing devices and other parts projecting beyond the chime or sidewall beads must also be capable of withstanding this test.

(2) *Pressure test.* Hydrostatic pressure test of at least 15 pounds per square inch, sustained without pressure drop for at least 5 minutes.

(c) Leakage test: Each drum must be tested for leakage with seams under water, or covered with soapsuds or heavy oil, or equivalent material. Interior air pressure of at least 7 pounds per square inch must be applied, and the seams and chimes examined for evidence of leakage. Leaking drums must be rejected, or repaired (see § 178.120–5) and retested.

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