



DEPARTMENT OF TRANSPORTATION
MATERIALS TRANSPORTATION BUREAU
WASHINGTON, D.C. 20590

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Title 49—Transportation

CHAPTER I—MATERIALS TRANSPORTATION BUREAU, DEPARTMENT OF TRANSPORTATION

[Docket No. HM-189; Amdt. 173-102]

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

Conversion of Individual Exemptions to Regulations of General Applicability

The purpose of these amendments to the Hazardous Materials Regulations of the Department of Transportation is to incorporate therein, a number of changes based on data and analysis supplied in selected exemption applications, or from existing special permits and exemptions. Adoption of these exemptions into the regulations provides wider access to the benefits of transportation innovations recognized as being effective and safe.

On September 30, 1976, the Materials Transportation Bureau published a notice of proposed rulemaking, Docket HM-139, Notice 76-7 (41 FR 43188), which proposed these amendments. The background and the basis for incorporating these exemptions into the regulations discussed in that notice. Interested persons were invited to give their views by the closing date of October 30, 1976.

The majority of comments received by the Bureau favored the amendments as proposed. The only comments received which favored modification of the proposed amendments came from the holders of the special permits or exemptions themselves. The holder of Special Permit Number 4354 requested that the proposed amendments of § 173.245(a)(16) and § 173.288 to allow chloroformates in additional packagings be changed to authorize vented closures to prevent accumulation of pressure in the containers. The commenter pointed out that the proposed amendments would not eliminate SP 4354 since vented closures are now authorized in the permit. The Bureau does not believe that vented containers should be authorized for chloroformates in the regulations at this time. Since the proposed change to § 173.245(a)(16) and § 173.288 would not obviate the need for SP 4354 without authorization for vented closures, the Bureau has decided to withdraw these proposed rule changes from this docket. The holders of SP 4354 will be notified of this action and renewal of the permit is being considered to obtain more shipping experience and to allow the Bureau more time to study this proposal.

The holder of Special Permit 4429 requested the rule change to § 173.289(a)(2) suggested a change in the proposed regulation. Specifically the commenter suggested that the use of the 103ALW and 111A60ALW tank cars be restricted to concentrations of formic acid of 97 percent or greater and that the reference to

the corrosive rate on the aluminum used in the construction of the tank cars be deleted as unnecessary. The Bureau agrees with the change in wording based on test data submitted by the commenter in support of their special permit application and these changes have been incorporated in the amendment to § 173.289(a)(2).

Several commenters, including the National LP-Gas Association, requested that § 173.314(e) be completely rewritten to allow all shippers more latitude in using gauging devices to verify the contents of liquefied gas in tank cars. The proposed change to § 173.314(e) would authorize the use of only a fixed tube gauging device for determining the weight of methyl mercaptan in 105A300W tanks.

The proposed wording offered by the commenters would authorize a variety of gauging devices to be used for any liquefied gas in any tank car. The Bureau maintains that such a rule change is far beyond the scope of the proposed amendment published in Notice 76-7 which was based on Special Permit 1107. Consequently, the amendment to § 173.314(e) remains unchanged from the proposed amendment in Notice 76-7 and the Bureau will consider the comments by the National LP-Gas Association and others at another time.

Notice 76-7 proposed an amendment to § 173.182(a)(1) to authorize DOT Specification 23G cylindrical fiberboard boxes for nitro carbo nitrate based on Special Permit 4271. The notice should have proposed an amendment of paragraph (c) in § 173.182 to authorize this package instead of an amendment of paragraph (a) since paragraph (c) relates specifically to nitro carbo nitrate. Accordingly, paragraph (c)(4) has been added in § 173.182 to more appropriately effect this change.

Analysis of these amendments and comments thereon indicate that the costs of regulatory enforcement will not be significantly affected, nor will additional costs be imposed on the private sector, consumers, or Federal, State, or local governments, since these amendments will authorize the general use of shipping alternatives previously available to only a few users under exemptions. The safety record or analysis of shipments under the exemptions, identified in Notice 76-7, demonstrate that significant environmental impacts will not result from any of these amendments.

Since these amendments are relaxations of existing rules, and place no additional burden on any person, they are being made effective in less than 30 days after publication in the FEDERAL REGISTER.

In consideration of the foregoing, 49 CFR Part 173 is amended as follows:

1. In § 173.64 paragraph (a)(5) is revised to read as follows:

§ 173.64 High explosives with no liquid explosive ingredient and propellant explosives, Class A.

(a) * * * (5) When such explosives contain over 5 percent moisture, box must have an inside polyethylene bag having a minimum thickness of 6 mils; or the box must be lined with strong paraffined paper or other authorized material, spec. 2L (§ 178.30 of this subchapter). Box hand-holes are not authorized.

2. In § 173.119 paragraph (a)(26) is added to read as follows:

§ 173.119 Flammable liquids not specifically provided for.

(a) * * * (26) Specification 57 (§ 178.253 of this subchapter). Portable tanks. Not authorized for transportation by water.

3. In § 173.124 paragraph (a)(3) is revised to read as follows:

§ 173.124 Ethylene oxide.

(a) * * * (3) In addition to specification packagings prescribed in this section, ethylene oxide may be shipped when packed in strong noncombustible outside packagings, with inside containers which must be securely sealed glass ampules or vials, contents not over 100 grams each, or inside aluminum cartridges, contents not over 135 grams each, cushioned in vermiculite or equally efficient noncombustible cushioning material. Not more than 100 grams of ethylene oxide shall be packed in any outside packaging except a maximum of 12 aluminum cartridges may be packed in a DOT Specification 12B (§ 178.205 of this subchapter) fiberboard box having top and bottom pads and an inside perimeter liner. A maximum of 10 such boxes may be overpacked in a master carton under the provisions of § 173.25(a).

4. In § 173.182 paragraphs (c)(3) and (c)(4) are added to read as follows:

§ 173.182 Nitrates.

(3) * * * (3) Specification 44P (§ 178.241 of this subchapter). Plastic bag made of film not less than 0.005-inch thick. Authorized net weight not over 51 pounds. Each bag must be capable of withstanding the test requirements of § 178.241-4 of this subchapter.

(4) Specification 23G (§ 178.218 of this subchapter). Cylindrical fiberboard box. Maximum net weight not over 50 pounds.

5. In § 173.224 paragraphs (a)(3) and (a)(4) are revised to read as follows:

§ 173.224 Cumene hydroperoxide, dicumyl peroxide, diisopropylbenzene hydroperoxide, paramenthane hydroperoxide, and tertiary butylisopropylbenzene hydroperoxide.

(a) * * * (3) Specification 103, 103W, 103A, 103AW, 111A60F1, 111A60W1, 111A100F2, or 111A100W2, (§§ 179.-

200, 179.201 of this subchapter). Tank cars. Authorized for 90 percent or less cumene hydroperoxide in a nonvolatile solvent, dicumyl peroxide of strength not exceeding 50 percent in a nonvolatile solvent, paramenthane hydroperoxide of strength not exceeding 60 percent in a nonvolatile solvent and diisopropylbenzene hydroperoxide of strength not exceeding 60 percent in a nonvolatile solvent only. Specifications 103, 103W, 111A60F1 and 111A60W1 tank cars must have bottom outlets effectively sealed from the inside.

(4) Specification MC 310, MC 311 or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles. Authorized for paramenthane hydroperoxide of strength not exceeding 60 percent in a nonvolatile solvent only. Authorized for cumene hydroperoxide of strength not exceeding 90 percent in a nonvolatile solvent in MC 311 or MC 312 cargo tanks only.

6. In § 173.247 paragraph (a) (2) is added to read as follows:

§ 173.247 Acetyl bromide, acetyl chloride, acetyl iodide, antimony pentachloride, benzoyl chloride, boron trifluorideacetic acid complex, chromyl chloride, dichloroacetyl chloride, diphenylmethyl bromide solution, pyro sulfuryl chloride, silicon chloride, sulfur chloride (mono and di), sulfuryl chloride, thionyl chloride, tin tetrachloride (anhydrous), titanium tetrachloride, and trimethyl acetyl chloride.

(a) * * * (2) Specification 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with inside Specification 2S or 2SL (§§ 178.35, 178.35a of this subchapter) polyethylene packaging. Polyethylene used must be Type III as set forth in Appendix B—Specification for Plastics to Part 178 of this Title. Authorized for acetyl chloride, dichloroacetyl chloride and sulfuryl chloride only.

7. In § 173.252 paragraph (g) (1) is revised to read as follows:

§ 173.252 Bromine.

(g) * * * (1) Specification 5K or 5M (§§ 178.88, 178.90 of this subchapter). Specification 5K nickel drums of not over 10 gallons capacity each and containing not more than 225 pounds net weight of bromine or Specification 5M monel drums of not over 25 gallons capacity each and containing not more than 600 pounds net weight of bromine. Drums must be of metal at least 14-gauge United States standard throughout and must have chime reinforcement adequate for their protection. All openings must be in one head and closing parts (plug, cap, flange, etc.) must be of the same metal as the drum. One opening not over 2.3 inch diameter and one opening not over 3/4-inch standard pipe size are permitted. Each drum must be completely emptied and dried before reuse and must be equipped with gaskets of a material approved by the Bureau of Explosives.

8. In § 173.262 paragraph (b) (2) is revised to read as follows:

§ 173.262 Hydrobromic acid.

(b) * * * (2) Specification 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with inside Specification 2S or 2SL (§§ 178.35, 178.35a of this subchapter) polyethylene container.

9. In § 173.271 paragraph (a) (3) is added and paragraph (a) (8) (ii) is revised to read as follows:

§ 173.271 Phosphorus oxybromide, phosphorus oxychloride, phosphorus trichloride and thiophosphoryl chloride.

(a) * * * (3) Specification 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with inside Specification 2S or 2SL (§§ 178.35, 178.35a of this subchapter) polyethylene packaging. Polyethylene used must be Type III as set forth in Appendix B—Specifications for Plastics to Part 178 of this Title. Authorized for phosphorus oxychloride and thiophosphoryl chloride only.

(8) * * * (ii) Tanks fabricated from Type 316 stainless steel or clad with Type 316 stainless steel having a minimum thickness of 0.2 times the design thickness of the parent metal, are authorized only for phosphorus oxychloride, phosphorus trichloride and thiophosphoryl chloride.

10. In § 173.288 paragraph (e) is added to read as follows:

§ 173.288 Chloroformates.

(e) Specification 34 (§ 178.19 of this subchapter). Polyethylene container without overpack, not over 5 gallons capacity.

11. In § 173.289 paragraphs (a) (2) and (c) (2) (i) are revised to read as follows:

§ 173.289 Formic acid and formic acid solutions.

(a) * * * (2) Specification 103ALW, 103CW, 103EW or 111A60ALW (§§ 179.200, 179.201 of this subchapter). Tank cars. Specification 103EW tanks must be of Type 316 stainless steel. Specification 103ALW tanks without bottom outlets, and Specification 111A60ALW tanks are authorized only for concentrations of 97 percent or greater and must be equipped with top loading and unloading devices. Specifications 103ALW and 111A60ALW are not authorized for transportation by water.

(i) Each tank car must be marked "FORMIC ACID" in accordance with requirements in § 172.330 of this subchapter.

12. In § 173.301 paragraph (d) (2) is revised to read as follows:

§ 173.301 General requirements for shipment of compressed gases in cylinders.

(d) * * * (2) Manfolding is authorized for cylinders of the following nonliquefied gases: Boron trifluoride, carbon monoxide, ethylene, hydrogen, hy-

drocarbon gases, methane, and nitrogen trifluoride, provided individual cylinders are equipped with approved safety devices as required by § 173.34 § 173.315 (i): And provided further, that each cylinder is equipped with individual shutoff valve, or valves, that must be tightly closed while in transit. Manifold branch lines to these and individual shutoff valves must be sufficiently flexible to prevent injury to the valves which otherwise might result from the use of rigid branch lines. A temperature measuring device may be inserted in one cylinder of a manifold installation in place of the shutoff valve.

13. In § 173.314 Note 12 to Table in paragraph (c) is revised; and paragraph (e) is revised to read as follows:

§ 173.314 Requirements for compressed gases in tank cars.

(c) * * *

Note 12.—For special tank requirements applying to chlorine, see § 179.102-2 of this subchapter. The quantity of chlorine loaded into a single-unit tank car must not exceed 90 tons. Nominal 16-, 30-, 55-, 65-, or 90-ton tank car tanks must not be loaded in excess of the nominal lading weights. Tank cars built to ICC-105A500 may be stenciled either ICC-105A300 or ICC-105A500; tank cars built to ICC or DOT-105A500W may be stenciled either 105A300W or 105A500W; each tank must be equipped with the safety relief valve required by the stenciled specification. Liquefied tank cars, not larger than 30-ton, capacity built to ARA-V, or not larger than 55-ton chlorine capacity built to 105A300, or ICC-105A300W may be continued in service if equipped with excess flow valves in accordance with § 179.102-2. ARA-V and ICC-105A cars having forge welded anchors must not be used for the transportation of chlorine.

(e) Verification of content. The amount of liquefied gas loaded into each tank may be determined either by measurement or calculation of the weight. If by measurement, the weight must be checked after disconnecting the loading line by the use of proper scales. If by calculation, the weight of liquefied petroleum gas, methylacetylene-propadiene, stabilized, dimethylamine, monomethylamine, or trimethylamine may be calculated using the outage tables supplied by the tank car owners and the specific gravities as determined at the plant, and this computation must be checked by determination of specific gravity of product after loading. Carriers may verify calculated weights by use of proper scales. The use of a fixed tube gauge device is authorized for determining the weight of methyl mercaptan in Specification 105A300W tanks instead of weighing.

14. In § 173.315 Note 11 to Table in paragraph (a) (1) is revised to read as follows:

§ 173.315 Compressed gases in tanks and portable tank car

(a) * * *

(1) * * *

Note 11: MC 330 or MC 331 cargo tanks must be insulated. Cargo tanks must meet all of the following requirements. Each tank

must be designed for a service temperature no higher than minus 100°F. and must comply with the low-temperature requirements of the ASME Code. The maximum allowable transportation distance before venting will occur, must be that normally accomplished within the holding time of the cargo tank as loaded with an added margin of 100 percent of the normal travel time. However, if the normal travel time exceeds 24 hours, the maximum allowable transportation distance before venting will occur may be that normally accomplished within the holding time of the cargo tank with an added margin of 24 hours. Before transportation in an empty condition each cargo tank having previously transported inhibited vinyl fluoride must have been drained and vented or blown down sufficiently so that there will be no venting during movement of the empty tank. Shipments by common motor carrier must be specifically approved by the Office of Hazardous Materials Operations (OHEMO).

15. In § 173.346 paragraph (a) (27) is added to read as follows:

§ 173.346 Poison B liquids not specifically provided for.

(a) * * * (27) Specification 51 (§ 178.245 of this subchapter). Portable tank. For rail transportation see § 174.63 of this subchapter.

16. In § 173.358 paragraph (a) (5) is revised and paragraph (a) (13) is added to read as follows:

§ 173.358 Hexaethyl tetraphosphate, methyl parathion, organic phosphate compound, organic phosphorous compound, parathion, tetraethyl dithio pyrophosphate, and tetraethyl pyrophosphate, liquid.

(a) * * * (5) Specification 21C (§ 178.224 of this subchapter). Fiber drums, with inside glass or metal containers not over 1-gallon capacity each.

(13) Specification 51 (§ 178.245 of this subchapter). Portable tanks. Tanks must have no bottom opening except one 3-inch maximum plugged opening for maintenance purposes is authorized. Contents of the tank must be under no gas pressure except its own vapor pressure and the commodity must be loaded into, and unloaded from, the tank while the tank is mounted on the vehicle chassis. Authorized for parathion, methyl parathion, and organic phosphate compound only and by private motor carrier only.

17. In § 173.359 paragraphs (a) (6) and (b) (5) are revised; paragraphs (a) (15) and (b) (11) are added to read as follows:

§ 173.359 Hexaethyl tetraphosphate mixtures; methyl parathion mixtures; organic phosphorus compound mixtures; organic phosphate compound mixtures; parathion mixtures; tetraethyl dithio pyrophosphate mixtures; and tetraethyl pyrophosphate mixtures, liquid (includes solutions, emulsions, or emulsifiable liquids).

(a) * * * (6) Specification 21C (§ 178.224 of this subchapter). Fiber drums, with inside glass or metal containers not over 1-gallon capacity each.

(15) Specification 51 (§ 178.245 of this subchapter). Portable tanks. Tanks must have no bottom opening except one 3-inch maximum plugged opening for maintenance purposes is authorized. Contents of the tank must be under no gas pressure except its own vapor pressure and the commodity must be loaded into, and unloaded from, the tank while the tank is mounted on the vehicle chassis. Authorized for methyl parathion mixtures, organic phosphate compound mixtures, and parathion mixtures only and by private motor carrier only.

(b) * * * (5) Specification 21C (§ 178.224 of this subchapter). Fiber drums, with inside glass or metal containers not over 1-gallon capacity each.

(11) Specification 12B30 (§ 178.205 of this subchapter). Fiberboard boxes of not less than 275-pound test double wall corrugated with a 5-mil one piece polyethylene bag form-fitted to the inner wall. Authorized only for pressure sealed polyethylene capsules containing not over 3 milliliters each.

18. In § 173.360 paragraph (a) (5) is added to read as follows:

§ 173.360 Perchloro-methyl-mercaptan.

(a) * * * (5) Specification 51 (§ 178.245 of this subchapter). Portable tanks, monel-clad. Tanks with bottom discharge outlets are prohibited. For rail transportation see § 174.63 of this subchapter.

19. In § 173.366 paragraph (b) (3) is added to read as follows:

§ 173.366 Arsenic (arsenic trioxide) or arsenic acid (solid).

(b) * * * (3) In tight metal drums of not over 25-gallon capacity and a maximum gross weight of 460 pounds. Drums must be constructed of at least 22-gauge steel.

20. In § 173.635 paragraph (a) (5) is added to read as follows:

§ 173.635 Ferrophosphorus.

(a) * * * (5) Fiber drums having an aluminum foil barrier.

Effective date: This amendment is effective on December 23, 1976.

21. AUTHORITY: (18 U.S.C. 834, 46 U.S.C. 170(f), 49 U.S.C. 1472(h) (1); 49 CFR 1.53(f)-(h)). Under a final rule making (41 FR 381175) on January 3, 1977 the authority citation for this amendment is changed to read: (49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53 (e)).

The Materials Transportation Bureau has determined that this document does not contain a major proposal requiring preparation of an Inflation Impact Statement under Executive Order 11821 and OMB Circular A-107.

Issued in Washington, D.C., on December 16, 1976.

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Director,

Materials Transportation Bureau.

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