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49 CFR Parts 172, 173, and 179

Performance-Oriented Packaging Standards; Corrections and Supplemental Proposals Concerning Transportation of Hazardous Materials in Tank Car Tanks and Rail Cars

DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Parts 172, 173 and 179

[Docket No. HM-181C; Notice No. 90-9]

RIN 2137-AB88

Performance-Oriented Packaging Standards; Corrections and Supplemental Proposals Concerning the Transportation of Hazardous Materials in Tank Car Tanks and Rail Cars

AGENCY: Research and Special Programs Administration (RSPA), DOT.

ACTION: Supplemental notice of proposed rulemaking (SNPRM); corrections and supplemental proposals.

SUMMARY: This document amends the notice of proposed rulemaking (NPRM) regarding performance-oriented packaging published on November 6, 1987 (52 FR 42772; Notice 87-4) to provide supplements and corrections to the proposals contained therein addressing the transportation of hazardous materials in tank car tanks and rail cars. The intended effects of this action are to promote safety through better packagings and operational procedures for the rail transportation of hazardous materials and to facilitate commerce by allowing greater flexibility in the choice of packagings for the rail transportation of hazardous materials.

DATES: Comments must be received on or before July 16, 1990.

ADDRESSES: Address comments to the Dockets Unit, Research and Special Programs Administration, Department of Transportation, Washington, DC 20590-0001. Comments should identify the docket and notice number and be submitted in five copies. If confirmation of receipt of comments is desired, include a self-addressed stamped postcard showing the docket number (i.e., Docket HM-181C). The Dockets Unit is located in Room 8421 of the Nassif Building, 400 7th Street SW., Washington, DC 20590-0001. Public dockets may be reviewed between the hours of 8:30 a.m., and 5 p.m., Monday through Friday, except holidays.

FOR FURTHER INFORMATION CONTACT: Philip Olekszyk, Deputy Associate Administrator for Safety, Federal Railroad Administration, RRS-2, Washington, DC 20590-0001, Telephone (202) 366-0897.

SUPPLEMENTARY INFORMATION:

I. General Discussion

This document supplements and corrects Docket HM-181, Notice 87-4, published on November 6, 1987 (52 FR 42772). The changes in this document address the transportation of hazardous materials in tank car tanks and rail cars and are generally based on errors and omissions pointed out to RSPA from the publication of the NPRM through November 1, 1989, but also involve supplemental proposals.

RSPA and FRA believe that because of the magnitude of the proposed changes involving tank car tanks and rail cars, this supplemental notice is necessary prior to development of a final rule under Docket HM-181. RSPA is also reviewing comments received concerning bulk packagings other than tank car tanks and rail cars, but has tentatively concluded that a supplemental notice for those packagings is not necessary, because the magnitude of the changes is relatively small and many of the issues concerning cargo tanks have already been addressed in the final rule under Docket HM-183 (54 FR 24982, June 12, 1989).

This preamble discusses only those changes which RSPA and FRA are making to rail car provisions proposed in the November 6, 1987 NPRM. For additional background information concerning Docket HM-181, the interested reader should refer to the preambles of the November 6, 1987 NPRM (52 FR 42772-42778) and the May 5, 1987 NPRM (52 FR 16482-16512).

Materials Extremely Poisonous By Inhalation

The November 6, 1987 NPRM proposed to allow the use of tank car tanks to transport certain materials poisonous by inhalation under conditions approved by the Director, OHMT. Several commenters recommended that this proposal be dropped. RSPA and FRA believe that these materials can be safely transported in tank car tanks as they are comparable in risk with certain other materials that are now being transported in bulk. However, RSPA and FRA believe that the broadest possible public participation (e.g., through an exemption or specific rulemaking) is needed to identify the appropriate equipment and operational conditions, if materials which are poisonous by inhalation are to be transported in tank car tanks. The approval process envisioned in the November 6, 1987 NPRM does not provide for this public participation. Therefore, this supplemental notice proposes to limit the transportation of materials poisonous by inhalation to tank car tanks currently authorized.

Shelf Couplers

The November 6, 1987 NPRM proposed to require coupler vertical restraint systems (i.e., shelf couplers) on certain tank car tanks not now required to be equipped with such systems. However, after the publication of the November 6, 1987 NPRM, RSPA published a final rule under Docket HM-166W (54 FR 38790, September 20, 1989) that incorporates the changes contemplated in the November 6, 1987 rulemaking. Therefore, those portions of the November 6, 1987 NPRM concerning coupler vertical restraint systems are withdrawn in this notice.

Open Top Rail Cars

Several commenters pointed out that the November 6, 1987 NPRM would prohibit the further use of open top rail cars to transport certain low hazard materials that have historically been transported in open top rail cars. These commenters recommended that Docket HM-181 be revised to allow the continued use of open top rail cars for these materials. RSPA and FRA agree and have revised §§ 172.101 and 172.102 accordingly. However, RSPA and FRA did not implement the suggestion of one commenter that there be blanket authorization to transport ORM-E materials that are not susceptible to air dispersion. The commenter did not propose any criteria for evaluating a material's susceptibility to air dispersion nor do RSPA and FRA know of any established test criteria for making such an evaluation.

Watertight Hopper Cars

Several commenters recommended that watertight, sift proof, closed top, metal covered hopper cars continue to be authorized for those commodities for which such cars are now authorized. RSPA and FRA agree and have modified §§ 172.101 and 172.102 accordingly.

AAR Specification Tank Car Tanks

Several commenters pointed out a typographical error in § 173.242 (i.e., "AAR 203W" should be "AAR 206W"). Section 173.242 has been revised to correct this error. One commenter suggested that AAR specification tank car tanks should not be authorized to transport any hazardous materials. RSPA and FRA disagree. AAR specification tank car tanks have long been used to transport low hazard hazardous materials and RSPA and FRA

do not have justification for restricting such usage.

Tank Test Pressure

Several commenters recommended that the 160 percent tank test pressure criteria in proposed § 173.31(a)(10)(i) in the Notice 87–4 (renumbered § 173.31(a)(16)(i) in this notice) be changed to 133 percent. They pointed out that the 160 percent criteria would require the replacement of a large portion of the existing tank car fleet by requiring that tank cars be marked with a higher test pressure than necessary for the commodity to be shipped and that a 133 percent criteria would substantially conform to the current regulations. RSPA and FRA included this provision in the November 6, 1987 NPRM due to their concern about the possible loss of hazardous materials lading through pressure relief valves from a tank car involved in an accident involving a rollover. We believe that a safety factor must be included to ensure that the static head and vapor pressure of the lading, in addition to any gas padding in the tank, do not cause the pressure relief devices to open in a rollover situation, and release product continuously without reseating. Upon review of this matter, RSPA and FRA have concluded that a 133 percent tank test pressure criteria is adequate for the safe transportation of compressed gases and cryogenic liquids. This revision is consistent with the approach taken by RSPA in the final rules for cargo tanks issued under Docket HM–183, 183A. However, RSPA and FRA are concerned that this criteria may not provide a sufficient safety margin for tank cars containing liquids equipped with pressure relief valves set as low as 22 psig. Since the relationship between individual commodities, the pressure relief valve setting and the tank car test pressure requires additional study by both RSPA and FRA and is outside the scope of Docket HM–181, it has not been included in this notice. Because of the significance of this issue, RSPA and FRA have decided to consider the issue in a separate docket (HM–175A). Accordingly, § 173.31(a)(16)(i) has been revised as requested by the commenters.

Several commenters recommended that static head and gas padding pressure not be considered in the calculation prescribed in § 173.31(a)(10)(i) of the November 6, 1987 NPRM (renumbered as § 173.31(a)(16)(i) in this notice), but these commenters did not offer any substantive arguments to support this recommendation. This supplemental notice does not propose any changes in this matter.

Tank Filling Limits

Several commenters recommended that the current filling limits for compressed gases in tank car tanks be retained. RSPA and FRA disagree. The current filling limits are ambiguous (e.g., the current § 173.314 could be read so that the filling limits of subparagraph (d)(2) of that section would supersede the generally more permissive filling limits of paragraphs (c) and (f) of that section) and may not take into account the lading temperatures that might be encountered in transportation. In general, the current regulations require that for liquefied compressed gases, the liquid phase must not completely fill an insulated tank car tank at 105 degrees Fahrenheit, an uninsulated DOT class 112 or 114 tank car tank at 115 degrees Fahrenheit, or an uninsulated tank car tank (other than DOT class 112 or 114) at 130 degrees Fahrenheit. However for some commodities, the current regulations permit tank car tanks to be filled to a greater capacity. For example, in the months of November through March, butadiene, 1-butene, propylene, and anhydrous ammonia may now be loaded in uninsulated tank car tanks so that the tanks would become shell full at lading temperatures of about 87 degrees Fahrenheit, 89 degrees Fahrenheit, 93 degrees Fahrenheit, and 96 degrees Fahrenheit, respectively. Paradoxically, the filling limits for butadiene and anhydrous ammonia in the above examples are less for insulated tank car tanks. After reviewing the history of § 173.314, RSPA and FRA conclude that the current filling limits were developed based upon limited empirical data. Also, the seasonal factors in the current filling limits are inappropriate considering the broad ranges of temperature that can occur in the United States and the delays of many consignees in unloading tank car tanks. RSPA and FRA believe that it is necessary that sufficient outage be provided when tank car tanks are loaded so that, even under extreme but credible scenarios, there will be no release of hazardous materials or distortion of tank car tanks caused by the expansion of the lading due to a rise in temperature in transit. Additionally, the filling limits proposed by RSPA and FRA are supported by the preliminary findings of a joint research project sponsored by the Federal Railroad Administration, the Association of American Railroads and the Railway Progress Institute. This research studied the relationship between pressure surges cause by tank car impacts in nonbaffled tank cars and the presence of outage in the tank.

In the November 6, 1987 NPRM, § 173.248 inadvertently proposed to permit a filling limit for ethylene oxide that was inconsistent with the general filling limits proposed in § 173.24b. This notice proposes to revise § 173.248 to eliminate this conflict.

Special Commodity Requirements

In the November 6, 1987 NPRM, RSPA and FRA proposed to delete certain sections of part 179 that were superfluous because they were duplicated in part 173. Several commenters pointed out that some nonsuperfluous sections were also deleted. RSPA and FRA agree and have modified §§ 172.101, 172.102, 173.248, and 173.314 accordingly.

One commenter incorrectly claimed that certain special commodity requirements had been deleted in the November 6, 1987 NPRM. Specifically, this commenter said that the special impact properties of carbon dioxide tank car tanks had been deleted, but in fact the current § 179.102–1(a)(1) was retained without any change. The same commenter stated that the alternate safety relief option for LPG, anhydrous ammonia, vinyl chloride had been deleted; the special requirements for hydrogen chloride had been deleted; the lining requirements and venting prohibitions in the current § 179.102 had been deleted and the valve protection and safety relief valve requirements for multi-unit tank car tanks had been deleted. The alternative safety relief option for LPG, anhydrous ammonia and vinyl chloride have not been deleted. The option was retained in proposed 173.314(c)(1)(i). The special requirements now required for hydrogen chloride have been retained with one modification. The lining requirements and venting prohibitions currently in § 179.102 have not been deleted and the valve protection and safety relief valve requirements for multi-unit tank cars are now contained in the special provisions column of the Hazardous Materials Table (§ 172.101).

Inappropriate Packagings

Several commenters pointed out that DOT class 107A and 113 tank car tanks might be inappropriate for the commodities for which they would be authorized. One commenter noted that the current loading and unloading arrangements on a 107A tank makes this tank unsuitable for liquids and solids. Another commenter recommended that DOT class 113 tank car tanks be restricted to hydrogen and ethylene, since these tanks are actually "large thermos bottles" and the inner

containers of the tanks might collapse if other commodities were loaded into these tanks.

RSPA and FRA believe that the compatibility requirements of proposed § 173.24(e) and the tank test pressure requirements (§ 173.31(a)(10)(i) in the November 6, 1987 NPRM, renumbered as § 173.31(a)(16)(i) in this notice) would preclude the use of inappropriate packagings to transport hazardous materials. However, as an additional safety measure, RSPA and FRA propose to modify §§ 173.240, 173.241, 173 242, 173.243, and 173.244 by deleting the authorizations for DOT class 107A and 113 tank car tanks.

Hydrogen Fluoride

One commenter pointed out that the reference to the marking of hydrogen fluoride in § 173.314 was out of place since, for hydrogen fluoride, anhydrous, column 8c of the Hazardous Materials Table (§ 172.101 Table) cites § 173.244. RSPA and FRA agree and have added a special provision B12 in the entry for hydrogen fluoride, anhydrous, in the § 172.101 Table to require the marking of hydrogen fluoride tank car tanks. It should be noted that RSPA is reviewing the classification of anhydrous hydrogen fluoride and may reclassify that material as a Division 2.3 material. If such a reclassification occurs, the appropriate changes will be made in the final rule.

Phosphorus Pentasulfide

One commenter recommended that AAR Specification 207W tank car tanks be authorized for shipment of phosphorus pentasulfide. The commenter pointed out that this material is typically in a powder or granular form and is not conducive to loading or unloading in other tank car tanks. FRA and RSPA agree and have modified §§ 172.101 and 172.102 to authorize AAR 207W tank car tanks.

Pressure Relief Device Capacity

Several commenters recommended that for materials poisonous by inhalation, the use of large safety relief valves should not be required. Some commenters contended that large safety valves were unnecessary, the large safety relief valves would make existing emergency response kits obsolete, and the large safety relief valves would release unsafe amounts of hazardous materials. RSPA and FRA believe that the large safety relief valves are necessary to prevent or mitigate tank failure if a tank car tank is engulfed in an intense fire or if the tank car tank is overturned so that it is venting liquid. However, RSPA and FRA believe that an acceptable alternative is to equip the tank car tank with additional thermal protection so that vapor generation is reduced. Therefore, RSPA and FRA are proposing to permit tanks carrying any commodity to use the alternative valve sizing option of proposed § 179.105-7(c).

Head Protection

The November 6, 1987 NPRM inadvertently omitted requirements for head protection on newly-built single-unit tank car tanks transporting bromine; hydrogen cyanide, anhydrous, stabilized, absorbed in a porous inert material; isophorone diisocyanate; nitrogen trifluoride; or, silicon tetrafluoride. This supplemental notice proposes to require head protection for newly-built tank car tanks transporting those commodities.

Comments on head protection generally fell into three areas: (1) What commodities should be protected with head protection, (2) whether full head protection should be the only acceptable head protection, and (3) whether existing tank cars should be retrofitted with head protection. Because of the significance of the issues raised concerning head protection, RSPA and FRA have decided to consider these issues in an advance notice of proposed rulemaking under Docket HM-175A, which appeared in the **Federal Register** of May 15, 1990 (55 FR 20242).

Grandfathering

The November 6, 1987 NPRM proposed to require, for ethyl chloride, ethylamine, and ethyl methyl ether, that all tank car tanks built after August 31, 1981 (and tank car tanks built before September 1, 1981 and with a capacity exceeding 18,500 gallons) be equipped with thermal protection and head protection. Those commodities are now classified as flammable liquids, but the November 6, 1987 NPRM would reclassify them as flammable gases. Upon further consideration. RSPA and FRA believe that the continued use of existing DOT 105A100W, 111A1000W4, 112A200W, and 114A340W tank car tanks for those commodities should be permitted for the present time. Retrofitting of these tank car tanks is considered in Docket HM-175A.

The November 6, 1987 NPRM proposed to require that newly-built tank car tanks carrying materials poisonous by inhalation be equipped with head protection and thermal protection, while allowing the continued use of some tank car tanks presently authorized for those materials. Several commenters recommended that the grandfather provisions be eliminated or restricted. Because of the significance of the issues raised concerning grandfathering. RSPA and FRA have decided to consider changing the grandfather provisions for materials toxic by inhalation in Docket HM-175A rather than Docket HM-181.

Bottom Outlets

Several commenters recommended that proposed special provision B26 be modified to clarify that bottom outlets are not authorized on phosphorus tanks. RSPA and FRA agree and have made the corresponding change to proposed § 172.102.

One commenter recommended that the current prohibition on the use of bottom outlets on tank car tanks carrying amyl mercaptan be continued. Although the irritating nature of amyl mercaptan might justify a prohibition on economic grounds, RSPA and FRA do not believe there is any safety justification for this prohibition and have not proposed any prohibition in this notice.

One commenter recommended a continuation of the prohibition on the use of bottom outlets on tank car tanks carrying commodities listed in the current § 173.247. RSPA and FRA do not believe that those commodities have any peculiar hazards that would justify such a prohibition and have not proposed any prohibition in this notice.

Heaters

One commenter recommended that only electric standpipe heaters be approved for sulfur trioxide. RSPA and FRA agree and have modified proposed special provision B29 accordingly.

Hydrogen Peroxide

Several commenters recommended that the venting arrangements for tank car tanks carrying hydrogen peroxide solutions exceeding 60 percent hydrogen peroxide be approved by the Director, OHMT. RSPA and FRA agree and have modified proposed §§ 172.101 and 172.102 accordingly.

Placarding

Several commenters recommended that the requirements for the placing of poison placards on square backgrounds be restricted to only those Division 2.3 or 6.1 materials that meet the Packing Group I, Zone A criteria, for inhalation toxicity. RSPA and FRA agree and have modified 172.510 accordingly.

Implementation

RSPA anticipates publishing a final rule under Dockets HM-181 and HM-181C in early 1991, pending issuance of this and several other supplemental NPRMs, evaluation of comments thereto,

and development of a final regulatory evaluation. It is proposed that a period of up to three years will be provided for implementing those provisions in Dockets HM–181 and HM–181C related to tank car packagings.

II. Review by Sections

The following review by sections addresses only the corrections and supplements made to the November 6, 1987, NPRM. For a comprehensive review by sections, interested persons should refer to the preambles of the May 5, 1987, NPRM (52 FR 16491 through 16510) and of the November 6, 1987, NPRM (52 FR 42772 through 42774).

Sections 172.101 and 172.102. In §§ 172.101 and 172.102, new special provision B54 has been added to certain low hazard solid materials to authorize the use of open top rail cars. New special provisions B55 and B56 have been added to certain solid materials to authorize the use of watertight hopper cars. New special provision B57 has been added to require that tank car tanks carrying chloroprene are equipped with nonreclosing pressure relief devices. For dimethylhydrazine, unsymmetrical, new special provision B58 replaces special provision B32. For phosphorus pentasulfide, new special provision B59 has been added to permit the use of AAR Specification 207A80W tank car tanks. In order to limit the types of single and multi-unit tank cars used for the transportation of phosgene, hydrogen cyanide, nitrogen dioxide and nitric oxide to those cars presently authorized, new special provisions have been added and other special provisions deleted for those products. New special provision B62 is added to hydrogen peroxide solutions exceeding 60 percent hydrogen peroxide to require that the venting arrangements be approved by the Director, OHMT. New special provision B63 is added to ethyl chloride, ethylamine, and ethyl methyl ether to allow the continued use of existing tank car tanks, not equipped with thermal protection or head protection. The issue of retrofitting these tank cars with thermal protection or head protection will be addressed in HM–175A. These commodities were formerly classified as flammable liquids, but would be reclassified as flammable gases in Docket HM–181. New special provision B64 is added to bromine, isophorone diisocyanate, silicon tetrafluoride, nitrogen trifluoride, and hydrogen cyanide, anhydrous, stabilized, absorbed in a porous inert material to require that tank car tanks built after December 31, 1990 be equipped with head protection. In special provisions B30, B31, B32, and B33 the April 1, 1989 date for grandfathering the use of certain tank car tanks has been changed to January 1, 1991 to conform with RSPA's revised estimate of the earliest date for voluntary compliance with the final rule for Docket HM–181. Typographical errors for nitric oxide, nitrous oxide, and methyl mercaptan are also corrected. Omissions in special provisions B31 and B32 have been corrected. Special provision B26 has been modified to clarify that bottom outlets are not authorized on phosphorus tanks.

Section 172.510. Section 172.510(a) has been revised to require square backgrounds only for Division 6.1 materials that are in Packing Group I, Zone A and Division 2.3 materials having an LC_{50} less than or equal to 200 ppm.

Section 173.31. In § 173.31(a), the numbering of the paragraphs has been changed to correct the inadvertent deletion of current paragraphs a(8), a(9), and a(10). The proposed changes in the requirements that certain tank cars be equipped with coupler vertical restraint systems has been deleted, since those changes were promulgated in the final rule for Docket HM–166W (54 FR 38790). The minimum tank test pressure requirements have been amended to permit the use of tanks whose tank test pressure was at least 133 percent (rather than 160 percent) of the sum of the lading vapor pressure at the reference temperature plus static head plus gas padding pressure and to exempt certain refrigerated or cryogenic liquids from the provisions of § 173.31(a)(16). The paragraph concerning pressure relief devices has been revised to clarify that (a) Multi-unit tank car tanks may be equipped with nonreclosing devices, (b) single unit tank car tanks carrying certain commodities may not be equipped with nonreclosing devices, and (c) single unit tank car tanks built before January 1, 1991 and equipped with nonreclosing devices may continue to be used.

Sections 173.240 through 173.244. In §§ 173.240(a), 173.241(a), 173 242(a), 173.243(a), and 173.244(a), DOT Class 107A and 113 tank car tanks are deleted from the list of bulk packagings authorized. In § 173.242, "AAR Class 203W tank car tanks" is changed to "AAR Class 206W tank car tanks" to correct a typographical error.

Section 173.245. In § 173.245, paragraph (a) is deleted and reserved.

Section 173.248. In § 173.248, paragraph (c) is revised to correct a conflict between that paragraph and § 173.24b(b)(1)(iii) and a new paragraph (h) is added to continue the requirement in the present HMR that ethylene oxide tank car tanks be equipped with thermometer wells.

Section 173.314. In § 173.314(c). Note 4 is revised to require excess flow valves on sampling valves and gaging devices and openings on protective housing covers on single unit tank cars carrying liquefied flammable gas. This change is to correct an inadvertent omission in the November 6, 1987 NPRM and is equivalent to the current requirements of §§ 179.102–3(a)(1), 179.102–3(a)(2), and 179.102–6(a)(2).

Section 179.14. The proposal in the November 6, 1987 NPRM to revise § 179.14 is withdrawn, since those changes were promulgated in the final rule for Docket HM–166W (54 FR 38790).

Section 179.105. In § 179.105(c), "tank car tank" is changed to "insulated tank car tank" and "section A8.01" is amended to "section A8.00" to correct typographical errors. In addition, tanks carrying any commodity would be permitted to use the alternative valve sizing option of § 179.105(c).

Administrative Notices

A. Executive Order 12291

RSPA has determined that this rulemaking (1) is not "major" under Executive Order 12291; (2) is not "significant" under DOT's regulatory policies and procedures (44 FR 11034); (3) will not affect not-for-profit enterprises or small governmental jurisdictions; and (4) does not require an environmental impact statement under the National Environmental Policy Act (40 U.S.C. et. seq.). A regulatory evaluation based on the original May 5, 1987 and November 6, 1987 proposals is available for review in the docket.

B. Executive Order 12612

This proposed action has been analyzed in accordance with the principles and criteria in Executive Order 12612, and it has been determined that the proposed rule does not have sufficient Federalism implications to warrant the preparation of a Federalism Assessment. This proposal has no substantial direct impact on the States, on the Federal-State relationship, or on the distribution of power and responsibilities among levels of government. Therefore, this proposed rulemaking contains no policies with Federalism implications as defined in Executive Order 12612.

C. Regulatory Flexibility Act

The proposed changes would generally affect persons involved in the qualification, maintenance and use of tank car tanks for the transport of

hazardous materials, some of whom may be small entities. The changes would involve becoming familiar with terminology and would impose little or no cost on those entities. Based on limited information concerning the size and nature of entities likely to be affected by this proposed rule, I certify that the regulations proposed within would not, if promulgated, have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects

49 CFR Part 172

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

49 CFR Part 173

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

49 CFR Part 179

Hazardous materials transportation, Railroad safety, Reporting and recordkeeping requirements.

In consideration of the foregoing, 49 CFR parts 172, 173, and 179, as proposed in Docket HM-181, Notice 87-4, published on November 6, 1987 (52 FR 42772), are further proposed to be amended as follows:

PART 172—HAZARDOUS MATERIALS TABLE, SPECIAL PROVISIONS AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

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

Authority: 49 App. U.S.C. 1802, 1803, 1804, 1808; 49 CFR part 1, unless otherwise noted.

§ 172.101 [Amended]

2. In § 172.101, as proposed at 52 FR 42783 on November 6, 1987, in the Hazardous Materials Table beginning at 52 FR 42787, the following "B" Codes would be added to column 7, special provisions:

a. B54 is added to column 7 (special provisions) for Hazardous waste, solid, n.o.s.

b. B55 is added to column 7 (special provisions) for Calcium carbide and for Calcium silicon.

c. B56 is added to column 7 for Magnesium, powder or Magnesium alloys, powder.

d. B57 is added to column 7 for Chloroprene, inhibited.

e. B58 is added to and B32 deleted from column 7 for Dimethylhydrazine, unsymmetrical.

f. B12 is added to column 7 for Hydrogen fluoride, anhydrous.

g. B59 is added to column 7 for Phosphorus pantasulfide, free from yellow and white phosphorus.

h. B60 is added to and B45 deleted from column 7 for Phosgene.

i. B60 is added to and B14, B31, and B45 are deleted from column 7 Nitric oxide.

j. B61 and B65 are added to and B30 is deleted from column 7 for Hydrogen cyanide, anhydrous, stabilized.

k. B61, B66 and B67 are added to column 7 for Nitrogen dioxide, liquefied.

l. B33 is deleted from column 7 for Nitrous oxide, refrigerated liquid.

m. B62 is added to column 7 for Hydrogen peroxide, stabilized or Hydrogen peroxide aqueous solutions, stabilized with more than 60 percent hydrogen peroxide.

n. B63 is added to column 7 for Ethyl chloride, Ethyl methyl ether, and Ethylamine.

o. B64 is added to column 7 for Bromine or Bromine solutions, Silicon tetrafluoride, Isophoronediisocyanate, Nitrogen trifluoride, and Hydrogen cyanide, anhydrous, stabilized, absorbed in a porous inert media.

2a. In § 172.101, as proposed at 52 FR 42783 on November 6, 1987, in the hazardous materials table beginning at 52 FR 42787, for the entry "Nitric oxide", 245 would replace 244 in column 8c.

§ 172.102 [Amended]

3. Section 172.102(c)(3), as proposed at 52 FR 42932 on November 6, 1987, would be amended as follows:

a. Special provision B26 is amended by removing the phrase "When lading is immersed in water," and capitalizing the word "tanks" in the last sentence.

b. Special provision B29 is amended by changing "Standpipe heaters" to "Electric standpipe heaters".

c. Special provisions B30, B31, B32, and B33 are amended by changing "April 1, 1989" to "January 1, 1991".

d. The fourth sentence of special provision B31 is revised to read "Notwithstanding the provisions of §§ 173.243(a) and 173.244(a) of this subchapter only the following tank car tanks are authorized: DOT 105J300W, 112J340W, 112T340W, 114J340W and 114T340W; DOT Class 106 and 110 multi-unit tank car tanks; DOT 105A300W tank car tanks built before January 1, 1991 (for methyl mercaptan see § 173.314); and, only for materials which do not meet the definition for a flammable gas (see § 173.115(a) of this subchapter), DOT 105J300ALW tank car tanks".

e. The fourth sentence of special provision B32 is amended by adding "114T340W," following "114J340W" to the list of authorized tank car tanks.

f. Special provision B36 is amended by deleting "Only".

4. In § 172.102, paragraph (c)(3), as proposed at 52 FR 42932, November 6, 1987, would be amended by adding the following "B" codes in numerical order:

§ 172.102 Special provisions.

* * * * *

(c) * * *

(3) * * *

Code	Special provisions
* * * * * * *	
B54	Open top sift proof rail cars also authorized.
B55	Water tight, sift proof, closed top, metal covered hopper cars, equipped with a venting arrangement (including flame arrestors) approved by the Director, OHMT, 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	DOT Class 115A tank car tanks shall be equipped with a safety vent of a diameter not less than 30.5 mm (12 inches) complying with § 179.221-1 of this subchapter and the outer shell shall be stenciled "CHLOROPRENE" on both sides in letters not less than 10.1 mm (four inches) high.
B58	The provisions of special provision B32 apply, except that DOT Class 112 and 114 tank car tanks are not authorized, aluminum tank car tanks are not authorized, DOT Class 105A tank car tanks must be stenciled DOT 105A100W and must be equipped with steel or stainless steel safety relief valves of the type and size used on DOT specification 105A100W tank car tanks, DOT Class 105S tank car tanks must be stenciled DOT 105S100W and must be equipped with steel or stainless steel safety relief valves of the type and size used on DOT specification 105S100W tank car tanks, and DOT Class 105J tank car tanks must be stenciled DOT 105J100W and must be equipped with steel or stainless steel safety relief valves of the type and size used on DOT specification 105J100W tank car tanks.
B59	AAR Specification 207A80W tank car tanks are also authorized provided that the lading is completely covered with a moisture free nitrogen blanket.

Code	Special provisions
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 phosgene, 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 Director, OHMT before any single unit tank car tank is offered for transportation.
B62	Single unit tank car tanks must be equipped with a venting arrangement that is approved by the Director, OHMT.
B63	Notwithstanding the provisions of § 173.314 of this subchapter, DOT Specification 105A100W, 111A100W4, 112A200W, and 114A340W tank car tanks, built before January 1, 1991, are also authorized. Specification 114A340W tank car tanks may not be equipped with any bottom outlet, but bottom washouts are permitted.
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 § 179.105–5 of this subchapter.
B65	DOT Specification 105A500W or 106A500W tank cars. Tank must be restenciled 105A300W and be equipped with safety valves of the type and size used on specification 105A300W tank cars. Tank car tank must be equipped with approved dome fittings and safety devices. The maximum filling density is 63 percent of the water capacity of the tank.
B66	Specification 106A500X or 110A500W tanks. 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	Specification 105A500W tank cars. Authorized for nitrogen tetroxide only. Tanks must be lagged with not less than a 10.1 mm (four inch) thickness of cork. All valves and fittings must be protected by a securely attached cover made of metal not subject to deterioration by the lading, and all valve openings, except safety valve, must be fitted with screw plugs or caps to prevent leakage in the event of valve failure.

5. In § 172.510, as proposed at 52 FR 42945, November 6, 1987, paragraph (a)(2) would be revised to read as follows:

§ 172.510 Special placarding provisions: Rail.

(a) * * *

(2) Each POISON, POISON-RESIDUE, POISONOUS GAS, and POISONOUS GAS–RESIDUE placard affixed to a rail car containing a Division 2.3 material having an LC_{50} less than or equal to 200 ppm, or a Division 6.1, Packing Group I, Zone A material meeting the criteria for inhalation toxicity (see § 173.133 of this subchapter), must be placed on a square background as described in § 172.527.

* * * * *

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

6. The authority citation for part 173 continues to read as follows

Authority: 49 App. U.S.C. 1803, 1804, 1805, 1808; 49 CFR part 1, unless otherwise noted.

7. Amendatory instruction 109 and the following codified text, as proposed at 52 FR 42956, November 6, 1987, would be revised to read:

109. In § 173.31, footnote ˅ would be removed from Retest Table 1 in paragraph (c), and paragraph (a)(1) would be revised, paragraph (a)(12) would be added and reserved, and paragraphs (a)(13) through (a)(19) would be added to read as follows:

§ 173.31 Qualification, maintenance, and use of tank cars.

(a) * * * (1) Except as otherwise provided in paragraphs (a)(2) and (a)(11) of this section, every tank car used for the transportation of hazardous materials shall meet the requirements of the applicable specification and regulations for the transportation of the particular hazardous material. See paragraph (a)(3) of this section.

* * * * *

(12) [Reserved]

(13) Pressure relief devices on tank car tanks must be of a type and design approved by the AAR Committee on Tank Cars and be made of metal not subject to deterioration by the lading.

(14) A Specification DOT–106A or 110A multi–unit tank car tank may be offered for transportation aboard a passenger vessel only as authorized in § 173.32(a)(4).

(15) Lading temperature must be within the tank design temperature range.

(16) Tank test pressure must be equal to or greater than the greatest of the following:

(i) Except for shipments of carbon dioxide, anhydrous hydrogen chloride, vinyl fluoride, ethylene, or hydrogen, 133 percent of the sum of lading vapor pressure at the reference temperature of 46.1 °C (115 °F) for uninsulated tanks or 40.6 °C (105 °F) for insulated tanks plus static head plus gas padding pressure in the ullage space or dome of tank;

(ii) 133 percent of the maximum loading or unloading pressure, whichever is greater; or

(iii) The minimum pressure prescribed by the specification in part 179 of this subchapter or for the specific hazardous material in the applicable packaging section in subpart F or G of this part.

(17) Air pressure may not be used to load or unload any lading which may create an enriched mixture within the flammability range of the lading in the vapor space of the tank.

(18) Except for shipments of chloroprene in DOT class 115 tank car tanks, single unit tank car tanks used for materials meeting the definition for Division 6.1 liquids, Packing Group I or II, Class 2 gases, or Class 3 or 4 liquids, may not be equipped with nonreclosing pressure relief devices. However, a tank car tank built before January 1, 1991 and equipped with nonreclosing pressure relief devices may be used to transport a Division 6.1 or Class 4 liquid provided that the liquid does not meet the definition of Division 6.1, Packing Group I, for inhalation toxicity (See §§ 173.132 and 173.133 of this subchapter).

(19) For tanks used to transport materials with a primary or secondary hazard of Class 8 which are to be reused for Class 2 materials, both tank and pressure relief valves shall be retested prior to loading with the Class 2 material.

* * * * *

8. In § 173.240, as proposed at 52 FR 42983, November 6, 1987 paragraph (a) would be revised to read as follows:

§ 173.240 Bulk packaging for certain flammable solids (Division 4.1), solid oxidizers (Division 5.1), corrosive solids (Class 8) and other similar low hazard materials.

* * * * *

(a) *Rail cars:* DOT Class 103, 104, 105, 109, 111, 112, 114, or 115 tank car tanks; Class 106 or 110 multi-unit tank car tanks; AAR Class 203W, 206W, and 211W tank car tanks; and metal non-DOT specification, sift proof tank car tanks and sift proof closed cars.

* * * * *

9. In § 173.241, as proposed at 52 FR 42984, November 6, 1987, paragraph (a) would be revised to read as follows:

§ 173.241 Bulk packaging for certain combustible liquids (Class 3), flammable solids (Divisions 4.2 and 4.3), and other similar hazardous materials.

* * * * *

(a) *Rail cars:* DOT Class 103, 104, 105, 109, 111, 112, 114, or 115 tank car tanks; Class 106 or 110 multi-unit tank car

tanks and AAR Class 203W, 206W, and 211W tank car tanks.

* * * * *

10. In § 173.242, as proposed at 52 FR 42984, November 6, 1987, paragraph (a) would be revised to read as follows:

§ 173.242 Bulk packaging for certain medium hazard liquids and solids, including solids with dual hazards.

* * * * *

(a) *Rail cars:* DOT Class 103, 104, 105, 109, 111, 112, 114, or 115 tank car tanks; Class 106 or 110 multi-unit tank car tanks and AAR Class 206W tank car tanks.

* * * * *

11. In § 173.243, as proposed at 52 FR 42984, November 6, 1987, paragraph (a) would be revised to read as follows:

§ 173.243 Bulk packaging for certain high hazard liquids and dual hazard liquids which pose a moderate hazard.

* * * * *

(a) *Rail cars:* DOT Class 103, 104, 105, 109, 111, 112, 114, or 115 tank car tanks; and Class 106 or 110 multi-unit tank car tanks. Gauging devices are required on DOT Class 103, 104, and 111 tank car tanks. Riveted tank car tanks are not authorized.

* * * * *

12. In § 173.244, as proposed at 52 FR 42984, November 6, 1987, paragraph (a) would be revised to read as follows:

§ 173.244 Bulk packaging for certain pyrophoric liquids (Division 4.2), poisonous liquids with inhalation hazards (Division 6.1) and gases (Class 2).

* * * * *

(a) *Rail cars:* DOT Class 105, 109, 112, or 114 tank car tanks; and Class 106 or 110 multi-unit tank car tanks. Riveted tank car tanks are not authorized.

* * * * *

§ 173.245 [Amended]

13. In § 173.245, as proposed at 52 FR 42984, November 6, 1987, paragraph (a) would be removed and reserved.

14. In § 173.248, as proposed at 52 FR 42984, November 6, 1987, paragraph (c) would be revised and a new paragraph (h) would be added to read as follows:

§ 173.248 Ethylene oxide.

* * * * *

(c) In determining outage, consideration must be given to the lading temperature and solubility of inert gas padding in ethylene oxide as well as the partial pressure exerted by the gas padding.

* * * * *

(h) Tank car tanks built after December 30, 1971 must be equipped with a thermometer well.

§ 173.314 [Amended]

15. In § 173.314(c), as proposed at 52 FR 42986, November 6, 1987, the table would be amended as follows:

a. In amendatory instruction 121 a., "Dimethylamine" and "Methylamine" are removed from the listing.

b. In amendatory instruction 121 l., "March 31, 1989" is replaced by "December 31, 1990".

c. Amendatory instruction 121 m. is added to read as follows:

m. The following sentence is added at the end of Note 4:

"For single unit tank car tanks built after December 30, 1971, the interior pipes of gaging devices with an opening for the passage of lading exceeding 1.52 mm (0.060 inch) diameter, and of sampling valves, must also be equipped with excess flow valves of an approved design; the protective housing cover must be provided with an opening above each safety relief valve which must be concentric with the discharge of the valve and have an area at least equal to the valve outlet area; and each opening must be provided with a weatherproof cover designed for vertical discharge."

PART 179—SPECIFICATIONS FOR TANK CARS

16. The authority citation for part 179 continues to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1805, 1806, 1808; 49 CFR part 1, unless otherwise noted.

17. As proposed at 52 FR 42999, November 6, 1987, amendatory instruction 150 and the proposed revision of § 179.14 are withdrawn.

18. As proposed at 52 FR 43000, November 6, 1987, § 179.105–7(c) would be revised to read as follows:

§ 179.105–7 Safety relief valves.

* * * * *

(c) Notwithstanding the provisions of § 179.100–15, § 179.200–18 or paragraph (a) of this section, the relieving or discharge capacity of the safety relief valve on an insulated tank car tank may be calculated in accordance with the formulas for insulated tank car tanks prescribed in Appendix A of the AAR Specifications for Tank Cars if—

(1) The tank is equipped with a thermal protection system in accordance with § 179.105–4;

(2) In all of three consecutive simulation pool fire tests required by paragraph (d) of § 179.105–4, none of the thermocouples on the uninsulated side of the steel plate indicates a plate temperature in excess of 288 °C (550 °F); and

(3) For tanks used for ethylene oxide, the valve capacity is at least 31.15 cubic meters per minute (1100 scfm) at 586 kPa (85 psig).

* * * * *

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John J. O'Connell, Jr.,

Acting Director, Office of Hazardous Materials Transportation.

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