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49 CFR Part 171, et al.

Performance-Oriented Packaging Standards; Miscellaneous Amendments; Rule

DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Parts 171, 172, 173, 174, 177, 178 and 179

[Docket No. HM-181F, Amdt. Nos. 171-123, 172-133, 173-236, 174-75, 177-82, 178-101, 179-47]

RIN 2137-AC40

Performance-Oriented Packaging Standards; Miscellaneous Amendments

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

ACTION: Final rule.

SUMMARY: RSPA is amending certain provisions of the Hazardous Materials Regulations (HMR). The changes are based on petitions for rulemaking and RSPA initiative and pertain primarily to requirements with a mandatory compliance date of October 1, 1993. The intended effect of this action is to update the regulations and relax certain regulatory requirements that will reduce unnecessary economic burdens on industry without an adverse effect on safety.

EFFECTIVE DATES: October 1, 1993.

The incorporation by reference of certain publications listed in these amendments is approved by the Director of the Federal Register as of October 1, 1993.

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SUPPLEMENTARY INFORMATION:

I. Background

On December 21, 1990, RSPA published a final rule (Docket HM-181; 55 FR 52402), which comprehensively revised the HMR with respect to hazard communication, classification, and packaging requirements based on the United Nations (UN) Recommendations on the Transport of Dangerous Goods. A document responding to petitions for reconsideration and containing editorial and substantive revisions to the final rule was published on December 20, 1991 (56 FR 66124). On October 1, 1992, under Dockets HM-181 and HM-189, RSPA issued editorial and technical corrections to the 1991 49 CFR Parts 107-180.

On July 12, 1993, RSPA issued a Notice of Proposed Rulemaking (NPRM) (Docket HM-181F; 58 FR 37612) which proposed changes to the HMR based on agency initiative and petitions for rulemaking received since the December 20, 1991 response to petitions for reconsideration. The NPRM primarily proposed revisions to requirements with a mandatory compliance date of October 1, 1993, as provided in the transitional provisions in § 171.14(b)(4). Because the amendments adopted herein affect regulations that have a mandatory compliance date of October 1, 1993, these amendments are effective without the customary 30-day delay following publication. This also will allow these changes to appear in the next revision of 49 CFR.

II. Summary of Comments

RSPA received over 40 comments from chemical companies, carriers, packaging manufacturers, and industry associations representing hazardous materials offerors, carriers and packaging manufacturers. Commenters generally supported the proposed changes. Major issues addressed by commenters included:

Additional delay in the Special Provisions B14 and T38 compliance date. RSPA received numerous requests to delay compliance with poison-by-inhalation hazard (PIH) packaging requirements. There was widespread support among commenters to delay, until October 1, 1994, the insulation requirement in Special Provisions B14 and T38 for bulk packagings containing a PIH material which could cause corrosion under an insulation blanket. However, these commenters asked RSPA to delay this requirement until October 1, 1995, claiming that otherwise RSPA will not have adequate time to thoroughly review the results of the Sandia National Laboratory's final report on bulk packagings containing PIH materials and to publish regulations based on the review.

RSPA is not granting a two-year delay (until October 1, 1995) to comply with the insulation requirements of Special Provisions B14 and T38. RSPA is, however, granting a delay until October 1, 1994, as proposed and, in addition, is clarifying that the exception applies to corrosion that would have an adverse effect on tank integrity. Based on further analysis, RSPA will determine if there is a need for revision or an additional delay in compliance with insulation requirements for bulk packagings used for PIH material which are also corrosive to the tank.

RSPA is aware of a company which used an aluminum jacket to comply with the insulation system requirements of Special Provision B14. This special provision requires that cargo tanks and portable tanks transporting PIH materials be provided with an insulation system with a specified minimum thermal performance level. While the HMR do not specify jacket material, RSPA clearly stated the intent of the insulation system in the July 12, 1993 NPRM issued under Docket HM-181F. The insulation system is intended to provide both accident damage and fire protection. In a future rulemaking, RSPA may propose a requirement for the use of a carbon or stainless steel jacket on insulation systems required by Special Provision B14. The use of a carbon or stainless steel jacket will provide the packaging a greater degree of integrity in both accident and fire situations. These steels are tougher and have a significantly higher melting temperature than aluminum.

Reclassification of PIH materials. Based on acute inhalation toxicity data and related information, RSPA proposed to amend the Hazardous Materials Table (Table) to change requirements for 19 materials. Comments supported most of the proposed changes.

Changes to the Table for 14 materials are adopted as proposed. These materials are: Boron trichloride (UN1741); Carbonyl sulfide (UN2204); Chlorine trifluoride (UN1749); Ethylene oxide, pure or with nitrogen (UN1040); Hydrogen iodide, anhydrous (UN2197); Methyl mercaptan (UN1064); Methylamine, anhydrous (UN1061); Nitric oxide (UN1660); Nitric oxide and dinitrogen tetroxide mixtures (Nitric oxide and nitrogen dioxide mixtures) (UN1975); Perchloryl fluoride (UN3083); Silicon tetrafluoride (UN1859); Thionyl chloride (UN1836); Trifluoroacetyl chloride (UN3057), and Trifluorochloroethylene, inhibited, R113 (UN1082).

For the newly designated PIH materials and for PIH materials which have changed hazard zones, RSPA is providing a one-year transition period through Special Provision 30. This delay will permit the continued use of shipping papers preprinted with the prior classification and hazard zone. The delay also will allow the use of packagings authorized in the 1990 final rule, and 1991 and 1992 revised final rules, under Docket HM-181, until October 1, 1994.

Several commenters noted a mistake in identifying boron trichloride (UN1741) as boron trifluoride (UN1741). The correct material is boron trichloride (UN1741). Also, the acute inhalation toxicity value for boron trichloride submitted by the Compressed Gas

Association (CGA) was incorrectly listed as: rat; LC50:2051 ppm/1H. The correct CGA value is: rat; LC50:2541 ppm/1H. In either case, the hazard zone assigned to boron trichloride is hazard zone C.

Comments on the other five materials provided adequate justification for not changing their Table entries. Thus, no changes are made to the Table for the following materials: Hydrogen chloride, anhydrous (UN1050); Hydrogen chloride, refrigerated liquid (UN2186); Hydrogen fluoride, anhydrous (UN1052); Methyl bromide (UN1062), and Methyl isothiocyanate (UN2477).

Most commenters did not support the proposal to move hydrogen chloride, anhydrous (UN1050) and hydrogen chloride, refrigerated liquid (UN2186) from Hazard Zone C to Hazard Zone D based on data submitted by the CGA (rat; LC50:3120 ppm/1H). Commenters cited a toxicity study by Hartzel, et al. (Journal of Fire Science, 1985) that showed a one-hour LC50 for hydrogen chloride as 2810 ppm and recommended that the Hazard Zone C assignment should not be changed. RSPA concurs with these commenters and has not revised the hazard zones for hydrogen chloride, anhydrous or hydrogen chloride, refrigerated liquid.

Several commenters, including the CGA, opposed the proposal to move hydrogen fluoride, anhydrous (UN1052) from Hazard Zone C to Hazard Zone B. Commenters cited several other toxicity studies that show a one-hour LC50 for hydrogen fluoride over 1000 ppm. Based on these studies, an "appropriate value" is: rat; LC50:1300 ppm/1H. RSPA concurs with these commenters and has not revised the hazard zone for hydrogen fluoride, anhydrous.

Several commenters opposed the proposal to move methyl bromide (UN1062) from Hazard Zone C to Hazard Zone B based on a recalculation of data for an eight-hour exposure (rat: LC50:302 ppm/8H). The CGA recalculated the one-hour value to be: rat; LC50:850 ppm/1H. The commenters contend that this recalculated one-hour LC50 value is no better than the other calculated one-hour LC50 value listed by RSPA (rat; LC50:1007 ppm/1H) which is based on the same eight-hour value. The commenters cited a recent study where rats were subjected to a single, six-hour exposure of methyl bromide vapor at 350 ppm. No rats died at this exposure level. Using the CGA method of calculation, 350 ppm/6H equates to 857 ppm/1H. Commenters indicated that they would ask the CMA Methyl Bromide Industry Panel to develop data to accurately determine the correct hazard zone to which methyl bromide should be assigned. RSPA concurs and has not revised the hazard zone for methyl bromide.

A commenter who holds a Special Approval to ship methyl isothiocyanate (UN2477) contends that the acute inhalation toxicity data submitted with the application (rat; LC50:20 ppm/1H) is correct. The commenter stated that it is performing a test which is scheduled to be completed at the end of August 1993, and that it expects the test to confirm the LC–50 to be approximately 20 ppm. The commenter requested that RSPA delay this proposed change until the results of its test are received. RSPA concurs with this commenter and has not revised the hazard zone for methyl isothiocyanate.

Cyanogen bromide (UN1889) is assigned to Hazard Zone A. However, a commenter provided data that shows that cyanogen bromide is a solid at 20 °C (68 °F) with a melting point of 52 °C (126°F) and a vapor pressure of 100 mm Hg at 23 °C (73 °F). Therefore, cyanogen bromide is a solid, as defined in § 171.8. Only liquids and gases may be designated as materials poisonous by inhalation. Therefore, cyanogen bromide is not a material poisonous by inhalation, and the entry in the Table for cyanogen bromide is revised accordingly.

Germane (UN2192) is a gas at 20 °C and is listed as a Hazard Zone A inhalation hazard. Until now, no acute inhalation toxicity data was available. A commenter submitted data indicating that germane is less toxic than previously estimated: (animal; LC50: 440 ppm/2H). This value, converted to one hour, is approximately: animal; LC50:622 ppm/1H and falls within Hazard Zone B. Consistent with the change to § 172.101(c) which requires the hazard zone to be considered when selecting a proper shipping name, RSPA accepts the data and the entry in the Table for germane is revised accordingly.

Consistent with the hazard zone change for ethylene oxide, the entries for ethylene oxide mixtures are revised to note that these materials are not PIH until the concentration of ethylene oxide exceeds 87%. One commenter requested that the entries for ethylene oxide mixtures be further revised based on recent amendments to the UN Recommendations and that these materials be allowed to be shipped in limited quantities in accordance with § 173.306. RSPA concurs and has revised these entries accordingly.

The removal of the subsidiary poisonous-by-inhalation hazard for "Thionyl chloride" raised several questions concerning special provisions and packaging requirements. One commenter asked if Special Provision T42, which requires an approval to use IM portable tanks, still applied. The answer is yes; because Special Provision T42 applies to Class 8 PG I materials, it will continue to apply to thionyl chloride.

Rail issues identified by commenters. Several commenters stated that the proposed wording for Note 30 in § 173.314 is inaccurate and should be changed. The proposed wording indicates that all existing tank cars must conform to Class DOT 105S. RSPA agrees that this wording is incorrect; only tank cars built after September 30, 1991, must conform to Class DOT 105S requirements. Therefore, RSPA is revising the wording in Note 30 to clarify that only tank cars built after September 30, 1991, must meet Class DOT 105S requirements. Commenters also noted that, for the thermal insulation system, glass fiber is placed over the ceramic fiber, not the reverse as indicated in proposed Note 30. Therefore, RSPA is correcting this provision to require 5.08 cm (2 inches) of glass fiber placed over 5.08 cm (2 inches) of ceramic fiber.

One commenter expressed concern that the proposed revision to Note 30 authorizing a Class DOT 105S tank car (which provides relief from the requirements for thermal protection or a large capacity relief valve) will require retrofitting of all tank cars with head shields and requested a seven-year delay to retrofit these tank cars with head shields. Under the current requirements in Note 30 in § 173.314, only a Class DOT 105J tank car is authorized (which requires head shields, insulation, thermal protection, tank jacket and a large capacity relief valve). RSPA believes that by also authorizing a Class DOT 105S, sufficient relief is provided by not requiring thermal protection or a large capacity relief valve.

Another commenter feared that the proposed revision to Special Provision B74 authorizing Class DOT 105S tank cars would replace the current authorization for Class DOT 105J tank cars. The commenter asked RSPA to continue to authorize the Class 105J tank car in Special Provision B74. In response to this comment, RSPA references the general qualifications for tank car use provided in § 173.31, specifically paragraph (a)(3)(viii) which states that when Class DOT 105S tank cars are prescribed, Class DOT 105J tank cars having equal or higher marked test pressures than those prescribed also may be used.

A rail carrier incorrectly believed that the regulations adopted under Docket

HM-181 allowed railcars moving under their own momentum to strike placarded flatcars, including flatcars loaded with placarded transport vehicles, freight containers, and bulk packagings. In the NPRM issued under Docket HM-181B, RSPA explained that it was consolidating the former §§ 174.83, 174.84 and 174.85. No change was intended or expressed, and this commenter is incorrect in its interpretation. RSPA did not intend to permit potential over-speed impact of railcars into other railcars loaded with Division 1.1, 1.2, 2.3, or any Class DOT 113 tank car placarded in Division 2.1. To help clarify the railcar handling requirements, RSPA is restructuring § 174.83 to reflect the language of the pre-HM-181 requirements by redesignating current paragraph (c) as paragraph (f) and adding new paragraphs (b), (c), (d), and (e).

Commenters representing the rail industry asked RSPA to require that methyl bromide be transported in a pressure car. This issue will be addressed in the notice of proposed rulemaking under Docket HM-175A.

Cargo tanks containing PIH materials. A carrier association recommended extension of the applicability of B77 to all PIH and high hazard liquids to permit continued cargo tank transportation until DOT releases the results of the Sandia National Laboratory research on PIH materials transported in bulk quantities or until DOT studies the availability of existing cargo tanks that comply with B14 and B32.

One commenter claimed that most shippers and carriers of sulphur dioxide believed until recently that insulation requirements in Special Provision B14 applied only to tank cars. However, the December 20, 1991 revised final rule issued under Docket HM-181 contained a discussion on insulation of cargo tanks and portable tanks for materials poisonous by inhalation assigned Hazard Zone C or D (56 FR 66131).

A commenter requested that RSPA review Note 24 to § 173.315, claiming that there is confusion among cargo tank manufacturers regarding requirements for minimum thickness for sulfur dioxide cargo tanks. RSPA agrees that some confusion was created by an inadvertent omission of the Note 24 requirement in the December 21, 1990 final rule, even though it was proposed in the May 5, 1987 NPRM (52 FR 16653, 16671). Accordingly, a one-year delay, until October 1, 1994, is provided for application of Note 24 to sulfur dioxide cargo tanks.

Another commenter asked RSPA to allow continued use of MC 331 cargo tanks built to current MC 331 standards by limiting the applicability of Notes 4 and 24 to cargo tanks built after October 1, 1993. Since issuance of a final rule under Docket HM-196 (50 FR 41092) in 1985, RSPA has remained committed to its goal of identifying materials poisonous by inhalation and adopting appropriate hazard communication and packaging requirements for those materials. RSPA believes that the hazards associated with these materials while in transportation have not been adequately addressed in the past. A two and one-half year period was afforded shippers and carriers of PIH materials to allow sufficient time for existing and new cargo tanks used to transport PIH materials to conform to the upgraded safety requirements effective October 1, 1993. Other than the one-year delay in insulation requirements for certain bulk packagings and minimum thickness requirements for sulfur dioxide cargo tanks, RSPA is not delaying packaging provisions for cargo tanks containing PIH materials.

Non-bulk packagings for PIH materials. As proposed in the NPRM, RSPA is authorizing 1H1 plastic drums and 6HA1 composite packagings as the inner packaging of the double drum configuration for Hazard Zone A materials. A commenter noted that RSPA did not propose to include minimum thickness requirements for 1H1 drums and 6HA1 composite packagings used as the inner drum for Hazard Zone A materials. The commenter noted the inconsistency with minimum thickness requirements for all other types of inner drums for Hazard Zone A materials in § 173.226(b)(4), and suggested that RSPA include minimum thickness requirements for 1H1 and 6HA1 inner packagings. RSPA agrees with the commenter, and in this final rule is revising § 173.226(b) to require minimum thicknesses for both 1H1 drums and for the inner plastic and outer steel components of 6HA1 composite packagings. These thicknesses are the same as those adopted for inner 1H1 and 6HA1 packagings in § 173.227(b).

Several commenters stated that the required minimum thickness of 1A1 steel drums used as the inner drum for Hazard Zone A materials is too high. A commenter also requested that the required minimum thickness for the outer drums required for Hazard Zone A materials be reduced. The commenters noted the current unavailability of cost-effective steel drums of these thicknesses. One commenter stated that drum manufacturers cannot successfully weld and roll chimes with 14 gauge steel for drums greater than 120 liter capacity, or with 16 gauge steel for drums less than or equal to 120 liters. However, in its comments to the NPRM, the Steel Shipping Container Institute indicated that drums of those thicknesses are not readily available, not because of manufacturing constraints, but because of a lack of demand.

RSPA believes that drums meeting the minimum thickness requirements for inner steel drums specified in the final rule in § 173.226(b) can be produced, and could be produced economically once demand increases. Therefore, RSPA is not revising any required minimum thicknesses. As previously noted, shippers and packaging manufacturers of drums used to transport PIH materials were granted a two and one-half year period to conform to the upgraded safety requirements effective October 1, 1993. RSPA remains committed to its goal of identifying PIH materials and adopting appropriate hazard communication and packaging requirements for those materials.

Two commenters suggested that, in lieu of establishing minimum thickness requirements for inner and outer drums in a double drum configuration, RSPA should set higher performance requirements for these packagings. The commenters did not elaborate on additional or higher performance standards which would be appropriate and would provide the level of protection created by the double drum packaging. In the absence of supporting data, RSPA is not accepting those comments.

As proposed in the NPRM, RSPA is removing the minimum cushioning thickness requirements between inner and outer drums in §§ 173.226 and 173.227.

Two commenters requested authorization to use single packagings (including 1H1 drums and 6HA1 composite packagings) to ship PIH materials in Hazard Zone A if in dedicated transportation systems (i.e., a shipment from one origin to one destination where the shipper loads the material, blocks and braces the drums, and seals the transport vehicle). The commenters noted the safety record of Hazard Zone A materials packaged in these types of single packagings under the terms of an exemption. One commenter claimed negative economic impacts will result if RSPA does not authorize these single packagings for Hazard Zone A materials, since non-U.S. competitors are not faced with the same double drum requirements. As stated in the NPRM, RSPA does not intend to authorize plastic drums as single packagings for poison inhalation

hazard materials in Hazard Zone A, even if in a dedicated transportation system, because single plastic drums do not provide an equivalent level of safety to double drums for Hazard Zone A PIH materials. However, as proposed, RSPA is authorizing 1H1 plastic drums as single packagings for less toxic PIH materials in Hazard Zone B under highly-controlled conditions.

One commenter, noting the complexity of the issues surrounding the packaging requirements for PIH materials, requested a one-year delay in mandatory compliance with PIH packaging provisions until October 1, 1994. As previously discussed in this document, RSPA is not granting any delays in mandatory compliance dates for PIH packagings.

Separation and Segregation Table in Parts 174 and 177. In the NPRM, RSPA proposed to remove the references to the separation distances of 1.2 meters by 10 centimeters. RSPA further proposed that Class 8 (corrosive) liquids may not be loaded or stored above or adjacent to Class 4 (flammable solid) and Class 5 (oxidizing) materials. RSPA also proposed to remove the letter "O" at the intersection columns of Division 2.1 (flammable) gas and Class 8 (corrosive) liquids.

These proposed changes to the segregation table were supported by commenters. However, several commenters asked for a one-year delay in compliance (until October 1, 1994) to implement these revised requirements. As stated previously, RSPA is not extending the October 1, 1993 compliance date for modal requirements because the changes adopted in this final rule constitute relaxations to the final rule issued under HM–181 on December 21, 1990, and, in most cases, maintain the pre-HM–181 separation requirements.

Most commenters supported the removal of references to the separation distances of 1.2 meters by 10 centimeters. RSPA is removing the reference distance separation as proposed. Accordingly, the means of separation used by carriers must ensure that commingling of materials will not occur in the event of leakage from packagings of hazardous materials. Separation must be accomplished by some means of physical separation, such as non-permeable barriers, non-reactive freight, or non-combustible, non-reactive adsorbents between packagings of hazardous materials required to be separated.

Numerous commenters noted a difference between preamble language and regulatory text in the NPRM concerning the prohibition against Class 8 (corrosive) liquids being "loaded above or adjacent to" Class 4 (flammable solid) and Class 5 (oxidizing) materials. Although the words "or adjacent to" were not specifically referenced in the preamble, the use of the words in the text of the regulation was intended by RSPA. The use of the phrase "above or adjacent to" has appeared in each separation requirement since at least the 1940s. RSPA is returning to the regulations in effect prior to publication of HM–181.

Several commenters suggested removing the letter "O" from each appropriate intersecting column for "2.3 Poisonous gas, other than Zone A" and Classes "3, 4.1, 4.2, 4.3, 5.1, and 8, corrosive liquids." Because many of the materials that had been previously classed as Poison A gases are included in Division 2.3 Hazard Zone B, RSPA believes that a separation requirement materials from other materials is appropriate for Zone B poisonous gases, since many of these materials would have been prohibited from being loaded on the same vehicle with flammable liquids, flammable solids, and oxidizers under the pre-HM–181 requirements. However, RSPA agrees with the commenters that Division 2.3 poisonous gases in Zone C or Zone D should not be subject to separation requirements because of their lower toxicity levels. Accordingly, the column titled "2.3 gas other than Zone A" is revised to read "2.3 gas Zone B" and the column titled "Poisonous gas other than zone A" is revised to read "Poisonous gas Zone B". In addition, as proposed, RSPA is removing the letter "O" at the intersecting columns for Division 2.1 (flammable) gas and Class 8 (corrosive) liquids.

The American Trucking Associations (ATA) was among several commenters who recommended that RSPA incorporate by reference their ATA–HM1 standard "Industry Standard Practices for the Separation for Hazardous Materials in Transportation." While RSPA applauds the initiative shown by ATA in developing this standard, RSPA does not believe its adoption is necessary in light of the changes in this final rule, and notes that ATA withdrew the document on February 17, 1993.

Class 9 placard. RSPA received numerous comments expressing support for its refusal to reinstate the Class 9 placarding requirement for domestic transportation. These commenters reiterated their claim that the Class 9 placard offers minimal enhancement of safety but imposes additional, unnecessary costs. However, the Chemical Waste Transportation Institute, which petitioned for reconsideration of the exception, continued to oppose RSPA's decision to provide a Class 9 placarding exception. The Department of Defense (DOD) requested that DOT reconsider reinstating the Class 9 placard requirement. The DOD stated that, as responsible transporters, the cost of potential health and environmental hazards should outweigh the cost or burden of Class 9 placarding requirements. The DOD further noted that the volume of Class 9 materials shipped from certain DOD installations is so minimal that Class 9 mandatory placarding, if required, would not be burdensome.

As stated in the NPRM, RSPA believes the overall costs associated with requiring placards for Class 9 materials outweigh the benefits of such requirements. The secondary costs associated with mandatory placarding, especially with the expanded scope of Class 9 materials, impose an unnecessary burden on industry, particularly small business entities. RSPA maintains that the current hazard communication requirements, including the marking of identification numbers on packages containing Class 9 materials, are sufficient to avert potential health and environmental hazards. Therefore, RSPA is not reinstating the Class 9 placarding requirement for domestic transportation, and the petition for reconsideration of the Chemical Waste Transportation Institute is hereby denied.

Other issues raised by commenters. Several commenters asked RSPA to adopt ISO 10156 "Gases and Gas Mixtures—Determination of Fire Potential and Oxidizing Abilities" or an equivalent method as authorized alternatives to the ASTM E681–85 test method to determine flammability in § 173.115. Commenters claimed that the ISO 10156 test method is equivalent to the Bureau of Mines testing protocol, which was the test method used to determine flammability of many gases currently classified as flammable. According to these commenters, unless the ISO 10156 test method or other alternative test methods are incorporated into the HMR, these gases will have to be retested in accordance with ASTM E681–85, resulting in the reclassification of many gases. RSPA agrees that other methods should be considered and is adding a provision in § 173.115(a)(2) to permit other equivalent test methods if approved by the Associate Administrator for Hazardous Materials Safety.

Another commenter asked RSPA to add a domestic entry in the § 172.101

Table for "Methyl methacrylate monomer, uninhibited". The commenter cited a successful shipping history of high purity material in MC307 cargo tanks and DOT115A60W6 tank cars. RSPA believes this issue is beyond the scope of this rulemaking. However, petitions for rulemaking with appropriate supporting data may be submitted in accordance with the procedures contained in 49 CFR 106.31.

One commenter asked RSPA to clarify transitional provisions in § 171.14 for previously unregulated materials. The commenter was concerned that, in addition to the October 1, 1993, compliance deadline for hazard classification and communication requirements, the new packaging provisions would apply. This is not the case. Previously unregulated materials must comply only with the general packaging requirements in § 173.24 (a) and (b) until October 1, 1996. RSPA is providing a longer transition period for maintenance and use of previously authorized packagings to allow packaging inventories to be depleted.

III. Review of Selected Sections

Part 171

Section 171.8. Definitions are added for "Explosive," "Miscellaneous hazardous material," "Nonflammable gas," and "Poisonous gas" to reference the appropriate hazard class definition section in part 173. In addition, the definitions for "Flash point" and "Etiologic agent" are revised to correctly reference the applicable hazard class definition in part 173.

Part 172

Section 172.101. Paragraphs (c)(12)(i) and (c)(12)(ii) are revised to add a requirement to consider hazard zone, if applicable, when selecting a proper shipping name for a material.

In the § 172.101 Hazardous Materials Table, the entries for "Lithium battery, liquid cathode" and "Lithium battery, solid cathode" are amended by correcting the cargo aircraft quantity limitation to read "35 kg gross" for solid and liquid cathode lithium batteries.

RSPA is adopting new domestic entries for "Methanol *or* Methyl alcohol" and "Methyl cyanide" that do not specify a "POISON" subsidiary hazard label. These materials do not meet the hazard classification criteria for a Division 6.1 material under the HMR. In addition, RSPA is adding a new domestic entry for "Chloroform" to change the hazard classification of this material from Division 6.1, PG II to Division 6.1, PG III. The revised entries for "Methyl cyanide" and "Chloroform" are consistent with recent amendments to the UN Recommendations.

RSPA is adding a new Special Provision 30 to the domestic entry for "Sulfur" to except from the HMR sulfur which is transported domestically in non-bulk packagings and sulfur which is formed to a specific shape (e.g., prills, granules, pellets, pastilles, or flakes).

RSPA is adopting the proposal to reclassify PETN as a Division 1.1D explosive, based on recent data which substantiates the UN classification of PETN.

For the entry "Poisonous liquid, oxidizing, n.o.s. Inhalation hazard, packing group I, Zone A", RSPA is correcting, as proposed, Column 9(b), which authorizes a 2.5 L quantity limitation on cargo aircraft. This entry is not consistent with the quantity limits for other poisonous by inhalation liquids, prohibiting any quantity of these materials on passenger or cargo aircraft. RSPA, therefore, is revising the Column 9(b) entry from "2.5 L" to "Forbidden".

Section 172.102. Special Provision A12 is separated into two special provisions to clarify the requirements for lithium batteries on cargo and passenger carrying aircraft. Under this separation, Special Provision 29 is added and Special Provision A12 is revised.

A new Special Provision 25 is added for those materials whose shipping descriptions are amended by this final rule. Special Provision 25 allows these materials to be offered for transportation and transported, until October 1, 1994, in accordance with the requirements adopted under Docket HM-181.

Special Provision B42 is amended by removing the authorizations for DOT 105A and 105S tank cars to clarify that the only tank car authorized for acrolein, inhibited is the DOT 105J500W specification tank car. This clarification is necessary because acrolein, inhibited is assigned both Special Provisions B42 and B72. Special Provision B42 currently authorizes DOT 105A and 105S tank cars, in addition to a DOT 105J tank car, but B72 restricts the packaging authorization to a DOT 105J500W tank car.

Special Provision B65 is amended by revising the first sentence to read "Notwithstanding the provisions of § 173.244 of this subchapter, only DOT 105A500W tank cars are authorized." This revision clarifies that, despite the authorization in § 173.244 for use of other tank cars, the only tank car authorized for hydrocyanic acid, aqueous solutions, and hydrogen cyanide, anhydrous, stabilized is the DOT 105A500W tank car. However, this restriction does not supersede § 173.31(a)(3), which permits a class DOT 105S or 105J tank car (a higher-integrity tank car) to be used if it has an equal or higher marked test pressure than the DOT 105A500W.

The first sentence of Special Provision B67 is removed because it duplicates insulation requirements for Class DOT 105 tank cars contained in § 179.100-4(a).

As proposed in the NPRM, RSPA is correcting Special Provision B76 for acetone cyanohydrin, stabilized. The purpose of Special Provision B76 is to require the use of a safety relief device having a start-to-discharge pressure setting lower than what would otherwise be the required setting for the tank specification. Special Provision B76 requires the use of a re-closing safety relief device having a start-to-discharge pressure setting of 1,034 kPa (150 psig). This will help reduce the potential for the material to polymerize. Since Special Provision B76 only defines the required safety valve and does not specify the authorized tank specification, RSPA is amending the special provision to include the tank cars authorized in Special Provision B74. This correction will clarify the authorized tank car and the start-to-discharge pressure setting for acetone cyanohydrin, stabilized.

Part 173

Section 173.34. The phrase "Poison A gas or liquid" is revised as proposed to read "Division 2.3 or Division 6.1 materials in Hazard Zone A". RSPA solicited comments on the potential implications of this terminology change. Previously, safety relief devices were prohibited on cylinders containing Poison A gases or liquids but generally were required on cylinders containing other gases or liquids. Based on the defining criteria for materials poisonous by inhalation, some materials previously classed as Poison A materials are now in Hazard Zones A, B or C and thus might be required to be packaged in cylinders having safety relief devices. Conversely, certain gases and liquids fall into Hazard Zone A that previously were not classed as Poison A materials. Cylinders for these Hazard Zone A materials would be prohibited from having safety relief devices. RSPA received two comments in response to this proposed revision. Both commenters supported the change in terminology and suggested a transition period to provide for retrofitting of the cylinders. RSPA agrees and is adopting the suggestion that a one-year transition period (until October 1, 1994) be authorized. All cylinders currently

filled are allowed to be shipped; however, after discharging the contents, the cylinders must be modified before they can be reshipped. Furthermore, materials which were previously classed as Poison A gases or liquids that are not classed as Division 2.3 or Division 6.1 in Hazard Zone A are required to have safety relief devices in accordance with the provisions of § 173.34(d) before October 1, 1994.

Section 173.54. As proposed, RSPA is adding a new paragraph (l), "Forbidden explosives," to clarify that explosive articles shipped with their means of initiation or ignition installed must be approved in accordance with § 173.56. In conjunction with this addition, RSPA is revising Special Provision 109 and removing paragraph (b) of § 173.63.

Section 173.63. Certain offerors of Class 1 detonating cords have been unable to utilize a packaging exception in § 173.63 because carriers refuse to accept this material when classed as Division 1.4D and marked "UN 0065". To resolve this problem, RSPA is adding a provision in § 173.63(a) to clarify that if detonating cord is offered or transported domestically as Division 1.4D, the identification number "UN 0289" may be used. In addition, paragraph (b) is removed, as discussed in the preceding section review.

Section 173.150. One commenter noted an apparent inconsistency in the limited quantity authorization of 5 L net capacity per inner packaging for Class 3 PG III liquids as compared to 4 L net capacity per inner packaging for PG III materials in other hazard classes. An amendment to § 173.150 in the December 20, 1991 revised final rule increased the net capacity per inner container for Class 3 PG III liquids from 4 L to 5 L for consistency with international air and vessel limited quantity provisions. RSPA agrees, however, that the equivalent customary measurement of one gallon is not appropriate for 5 L. Therefore, paragraph (b)(3) is revised to indicate "(1.3 gallon)" as the equivalent customary measurement for 5 L.

Section 173.163. One commenter noted that the packaging authorizations for hydrogen fluoride, anhydrous, do not include the Specification 3BN cylinder. Because this cylinder is authorized in the pre-HM-181 regulations, and because there is no safety reason for its exclusion, the commenter believed that it was inadvertently omitted in the final rule under HM-181. RSPA agrees and is adding the Specification 3BN cylinder as an authorized cylinder for hydrogen fluoride, anhydrous.

Section 173.185. Paragraph (i) is revised to clarify that the exception provided in this paragraph applies to all lithium batteries, including rechargeables, and those contained in equipment.

Section 173.226. Paragraph (b) is amended as proposed to include 1H1 and 6HA1 packagings and to remove the required minimum thickness for cushioning between inner and outer drums.

Section 173.227. The required minimum thickness for cushioning in paragraph (b)(4) is removed.

In the NPRM, RSPA proposed to revise § 173.227(b)(3)(i)(D) to require a minimum thickness of 0.70 mm (0.027 inch) for 6HA1 drums used as inner packaging. RSPA stated that, because the 6HA1 is a two-part packaging, with the plastic inner packaging providing additional containment and structural support, there is no reason why the steel portion of it should be thicker than a single steel drum used in the same service. RSPA is adopting, as proposed, a decrease in the minimum thickness requirement for a 6HA1 drum used as an inner packaging to 0.70 mm (0.027 inch). In addition, paragraph (c) is revised as proposed to authorize 1H1 plastic drums as single packagings under the provisions of this section.

Section 173.306. RSPA is revising paragraphs (a)(3)(i) and (b)(1) to clarify that one liter is the regulatory standard. The customary measurement of 50 cubic inches is corrected to read "61.0 cubic inches" as the approximate equivalent of one liter. Commenters favored this revision, and one commenter asked RSPA to address the inconsistency between the volume limitation in § 173.306 and the volume limitation for a DOT Specification 2Q inner non-refillable metal container. Recently, RSPA has received similar requests to align the maximum volumetric capacities for DOT Specification 2P and 2Q containers. RSPA agrees and is amending §§ 178.33–2 and 178.33a–2 to increase the maximum capacity for both DOT 2P and 2Q containers to one liter (61 cubic inches).

In addition, paragraph (h)(3) is revised to reference the exception provided in § 173.156 for ORM–D materials. Adding this reference provides consistency with other packaging sections addressing ORM–D materials.

Section 173.314. In addition to revisions discussed in the preamble, Note 21 is amended as proposed to remove the parentheses in "§ 173.24(b)" to correctly read "§ 173.24b".

Section 173.323. There is a proven record of drums successfully passing the fire test currently required under paragraph (b)(5). RSPA proposed to remove this requirement that drums be fire-tested, and substituted a requirement that these drums be capable of passing such a test. RSPA is adopting the paragraph (b)(5) revision as proposed.

Part 178

Sections 178.33–2 and 178.33a–2. Based on the merit of comments, RSPA is amending §§ 178.33–2 and 178.33a–2 to increase the maximum capacity for both DOT 2P and 2Q containers to one liter (61 cubic inches) for consistency with limited quantity provisions in § 173.306.

Part 179

Section 179.100–7. This section is amended to add Type 304L and 316L as an authorized material for the construction of DOT 105, 109, 112 and 114 tank cars. One commenter suggested that Table 179.101–1 be amended by allowing stainless steel for each Class DOT 105A, 112A, and 114A classification. RSPA does not believe this is necessary because the Table references § 179.100–7, which authorizes stainless steel in paragraph (c).

Section 179.100–10. Section 179.100–7 is amended to authorize Type 304L and 316L stainless steels for construction of DOT pressure tank cars. In addition, a new paragraph (c) is added to § 179.100–10 to not require postweld heat treatment of Type 304L and 316L stainless steels.

IV. Rulemaking Analyses and Notices

Executive Order 12291 and DOT Regulatory Policies and Procedures

This final rule does not meet the criteria specified in section 1(b) of Executive Order 12291 and, therefore, is not a major rule. The rule is not considered significant under the regulatory procedures of the Department of Transportation. A regulatory evaluation is available for review in the Docket.

Executive Order 12612

The final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 12612 ("Federalism"). The Hazardous Materials Transportation Act contains an express preemption provision (49 U.S.C. App. 1804(a)(4)) that preempts State, local, and Indian tribe requirements on certain covered subjects. Covered subjects are:

(i) The designation, description, and classification of hazardous materials;

(ii) The packing, repacking, handling, labeling, marking, and placarding of hazardous materials;

(iii) The preparation, execution, and use of shipping documents pertaining to hazardous materials and requirements respecting the number, content, and placement of such documents;

(iv) The written notification, recording, and reporting of unintentional release in transportation of hazardous material; or

(v) The design, manufacturing, fabrication, marking, maintenance, reconditioning, repairing, or testing of a package or container which is represented, marked, certified, or sold as qualified for use in the transportation of hazardous materials.

This final rule concerns the following covered subjects:

(1) The designation, description, and classification of hazardous materials: definitions added or revised in § 171.8; requirement added to consider hazard zone of material when selecting proper shipping name; changes to hazard classification and/or hazard zone for 18 PIH materials; chloroform hazard classification change from PG II to PG III; reclassification of PETN to Division 1.1D explosive; clarification of lithium batteries provision that the exception from the regulations applies to all lithium batteries, including rechargeables and those contained in equipment; and clarification on ORM–D exceptions for gases.

(2) The packing, repacking, handling, labeling, marking, and placarding of hazardous materials: correct cargo aircraft quantity limitations for lithium batteries and for poisonous liquid, oxidizing, n.o.s. in PG I Hazard Zone A; removal of POISON label for methanol and methyl cyanide; revisions to special provisions for lithium batteries on cargo and passenger carrying aircraft; delay in compliance date for insulation requirements for PIH bulk packagings; changes to tank car packaging authorizations for acrolein, hydrocyanic acid/hydrogen cyanide, and acetone cyanohydrin; terminology change for PIH materials in cylinders which may result in changes to safety relief valve requirements; relief for certain DOD Class 1 materials shipments; change in identification number prefix; clarification on exception for detonating cords; new packaging authorizations and other relief for PIH packagings; clarification on ORM–D packagings for gases; changes to tank car note for compressed gases in tank cars; delay in mandatory compliance date for segregation table; and clarification on switching placarded cars.

(3) The design, manufacturing, fabrication, marking, maintenance, reconditioning, repairing, or testing of a package or container which is represented, marked, certified, or sold as qualified for use in the transportation of hazardous materials: capability requirement rather than fire test for ethylene oxide drums; and authorization to use stainless steel in constructing certain tank cars for PIH materials and exception for postweld heat treatment.

This final rule preempts any State, local, or Indian tribe requirements in accordance with the standards set forth above. The HMTA (49 App. U.S.C. 1804(a)(5)(B)) provides that if DOT issues a regulation concerning any of the covered subjects after November 16, 1990, DOT must determine and publish in the **Federal Register** the effective date of the Federal preemption. That effective date may not be earlier than the 90th day following the date of issuance of the final rule and not later than two years after the date of issuance. RSPA has determined that the effective date of Federal preemption for the requirements in this rule concerning covered subjects will be October 1, 1994.

Thus, RSPA lacks discretion in this area, and preparation of a federalism assessment is not warranted.

Regulatory Flexibility Act

I certify that this final rule will not have a significant economic impact on a substantial number of small entities. This rule generally provides relief to those hazardous materials offerors and carriers of materials poisonous by inhalation and manufacturers of PIH packagings. It also provides relief to carriers by adopting a performance standard to prevent commingling of certain hazardous materials during transportation.

Paperwork Reduction Act

There are no new information collection requirements in this final rule.

List of Subjects

49 CFR Part 171

Exports, Hazardous materials transportation, Hazardous waste, Imports, Incorporation by Reference, Reporting and recordkeeping requirements.

49 CFR Part 172

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

49 CFR Part 173

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

49 CFR Part 174

Hazardous materials transportation, Radioactive materials, Railroad safety.

49 CFR Part 177

Hazardous materials transportation, Motor carriers, Radioactive materials, Reporting and recordkeeping requirements.

49 CFR Part 178

Hazardous materials transportation, Motor vehicle safety, Packaging and containers, Reporting and recordkeeping requirements.

49 CFR Part 179

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

In consideration of the foregoing, 49 CFR chapter I is amended as follows:

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1. The authority citation for part 171 continues to read as follows:

Authority: 49 App. U.S.C. 1802, 1803, 1804, 1805, 1808, and 1818; 49 CFR part 1.

2. In § 171.7, for the entry "ASTM A 262–68 Recommended Practices for Detecting Susceptibility to Intergranular Attack in Stainless Steels.", the wording "179.100" is added in Column 2 in appropriate numeric sequence.

3. In § 171.8, the following definitions are added or revised as indicated, in appropriate alphabetical order to read as follows:

§ 171.8 Definitions and abbreviations.

[Add:]

* * * * *

Explosive. See § 173.50 of this subchapter.

* * * * *

Miscellaneous hazardous material. See § 173.140 of this subchapter.

* * * * *

Nonflammable gas. See § 173.115 of this subchapter.

* * * * *

Poisonous gas. See § 173.115 of this subchapter.

* * * * *

[Revise:]

* * * * *

Etiologic agent. See § 173.134 of this subchapter.

* * * * *

Flash point. See § 173.120 of this subchapter.

* * * * *

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

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

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

5. In § 172.101, paragraph (c)(12)(i) and the first sentence of paragraph (c)(12)(ii) are revised to read as follows:

§ 172.101 Purpose and use of hazardous materials table.

* * * * *

(c) * * *

(12) * * *

(i) If it is specifically determined that a material meets the definition of a hazard class, packing group or hazard zone, other than the class, packing group or hazard zone shown in association with the proper shipping name, or does not meet the defining criteria for a subsidiary hazard shown in Column 6 of the Table, the material shall be described by an appropriate proper shipping name listed in association with the correct hazard class, packing group, hazard zone, or subsidiary hazard for the material.

(ii) *Generic or n.o.s. descriptions.* If an appropriate technical name is not shown in the Table, selection of a proper shipping name shall be made from the generic or n.o.s. descriptions corresponding to the specific hazard class, packing group, hazard zone, or subsidiary hazard, if any, for the material. * * *

* * * * *

6. In § 172.101, the Hazardous Materials Table is amended by removing, adding, or revising, in appropriate alphabetical sequence, the following entries to read as follows:

SECTION 172.101 Hazardous Materials Table

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification numbers	Packing group	Label(s) required if not excepted	Special provisions	(8) Packaging authorizations (§ 173.* * *)			(9) Quantity limitations		(10) Vessel stowage requirements	
							Exceptions	Nonbulk packaging	Bulk packaging	Passenger aircraft or rail car	Cargo aircraft only	Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	[Remove]												
	Carbon dioxide and ethylene oxide mixtures *with more than 6 per cent but not more than 25 percent ethylene oxide.*	2.1	UN1041	.....	Flammable Gas	.....	None	304	314, 315.	Forbidden.	25 kg ...	D	40
	Carbon dioxide and ethylene oxide mixtures *with more than 25 percent ethylene oxide.*	2.3	UN1041	.....	Poison Gas	6, B9, B14.	None	304	314, 315.	Forbidden.	25 kg ...	D	40
	Carbon dioxide and ethylene oxide mixtures *with not more than 6 percent ethylene oxide.*	2.2	UN1952	.....	Nonflammable Gas .	.....	None	304	314, 315.	75 kg ...	150 kg .	B	
	•	•	•	•	•	•	•	•	•	•	•	•	•
	Chloroform	6.1	UN1888	II	Poison	N36, T14.	None	202	243	5 L	60 L	A	40
	•	•	•	•	•	•	•	•	•	•	•	•	•
	Dichlorodifluoromethane and ethylene oxide mixture, *with not more than 12% ethylene oxide.*	2.2	UN3070	.....	Nonflammable Gas .	.....	None	304	314, 315.	Forbidden.	25 kg ...	D	40
	•	•	•	•	•	•	•	•	•	•	•	•	•
	Methanol, *or* Methyl alcohol	3	UN1230	II	Flammable Liquid, Poison.	T8	None	202	242	1 L	60 L	B	40
	•	•	•	•	•	•	•	•	•	•	•	•	•
	Methyl cyanide	3	UN1648	II	Flammable Liquid, Poison.	T14	None	202	243	1 L	60 L	B	40
	•	•		•	•		•		•		•		
	[Add]												
	•	•		•	•		•		•		•		
	Ethylene oxide and carbon dioxide mixtures *with more than 9 percent but not more than 87% ethylene oxide.*	2.1	UN1041	.....	Flammable Gas	25	306	304	314, 315.	Forbidden.	25 kg ...	D	40
	Ethylene oxide and carbon dioxide mixtures *with not more than 9 percent ethylene oxide.*	2.2	UN1952	.....	Nonflammable Gas .	25	306	304	314, 315.	75 kg ...	150 kg .	B	
	Ethylene oxide and dichlorodifluoromethane mixture *with not more than 12.5 percent ethylene oxide.*	2.2	UN3070	.....	Nonflammable Gas .	25	306	304	314, 315.	Forbidden.	25 kg ...	D	40

D	Chloroform	6.1	UN1888	III	Keep Away From Food.	N36, T14.	153	203	241	5 L	60 L	A	40
I	Chloroform	6.1	UN1888	II	Poison	N36, T14.	None	202	241	5 L	60 L	A	40
D	Methanol *or* Methyl alcohol	3	UN1230	II	Flammable Liquid	T8	150	202	242	1 L	60 L	B	40
I	Methanol *or* Methyl alcohol	3	UN1230	II	Flammable Liquid, Poison.	T8	150	202	242	1 L	60 L	B	40
D	Methyl cyanide	3	UN1648	II	Flammable Liquid	T14	150	202	242	1 L	60 L	B	40
I	Methyl cyanide	3	UN1648	II	Flammable Liquid, Poison.	T14	150	202	242	1 L	60 L	B	40
	[Revise]												
	Cyanogen bromide	6.1	UN1889	I	Poison, Corrosive	25, A6, A8.	None	211	242	Forbidden.	25 kg	D	40
	Hydrogen iodide, anhydrous	2.3	UN2197		Poison Gas	3, 25, B14.	None	304	314, 315.	Forbidden.	Forbidden.	D	40
	Lithium batteries, contained in equipment.	9	UN3091	II	Class 9	18, 29, A12.	185(i)	185	None	Forbidden.	See A12.	A	
	Lithium battery, *liquid cathode*	9	UN3090	II	Class 9	29	185(i)	185	None	Forbidden.	35 kg gross.	A	
	Lithium battery, *solid cathode*	9	UN3090	II	Class 9	29	185(i)	185	None	Forbidden.	35 kg gross.	A	
	Methylamine, anhydrous	2.1	UN1061		Flammable Gas	25	306	304	314, 315.	Forbidden.	150 kg	B	40
	Pentaerythrite tetranitrate *or* Pentaerythritol tetranitrate *or* PETN, wetted *with not less than 25 percent water, by mass or* Pentaerythrite tetranitrate *or* Pentaerythritol tetranitrate *or* PETN, desensitized *with not less than 15 percent phlegmatizer by mass.*	1.1D	UN0150	II	Explosive 1.1D	25, 117	None	62	None	Forbidden.	Forbidden.	B	1E, 5E
D	Sulfur	9	NA1350	III	Class 9	30, A1	None	None	240	25 kg	100 kg	A	19, 74

SECTION 172.101 Hazardous Materials Table—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification numbers	Packing group	Label(s) required if not excepted	Special provisions	(8) Packaging authorizations (§ 173.* * *)			(9) Quantity limitations		(10) Vessel stowage requirements	
							Exceptions	Nonbulk packaging	Bulk packaging	Passenger aircraft or rail car	Cargo aircraft only	Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	*	*		*	*		*		*		*		
	Thionyl chloride	8	UN1836	I	Corrosive	25, A7, B6, B10, N34, T42.	None	201	243	Forbidden.	2.5 L	C	8, 40
	*	*		*	*		*		*		*		
	Trifluoroacetylchloride	2.3	UN3057		Poison Gas	2, 25, B9, B14.	None	304	314, 315.	Forbidden.	25 kg	D	40
	Trifluorochloroethylene, inhibited, *R1113.*	2.3	UN1082		Poison Gas	3, 25, B14.	None	304	314, 315.	Forbidden.	150 kg	B	40
	*	*		*	*		*		*		*		

§ 172.101 [Amended]

7. In addition, in the § 172.101 Hazardous Materials Table, the following changes are made:

a. For the entry "Acetone cyanohydrin, stabilized", in Column (7), Special Provision "B74," is removed.

b. For the entry "Boron trichloride", in Column (7), Special Provision "1," is revised to read "3, 25".

c. For the entry "Carbonyl sulfide", in Column (7), Special Provisions "2, B9" are revised to read "3, 25".

d. For the entry "Chlorine trifluoride", in Column (7), Special Provision "1" is revised to read "2, 25".

e. For the entry "Ethylene oxide, *pure or with nitrogen*", in Column (7), Special Provision "3" is revised to read "4, 25".

f. For the entry "Germane", in Column (7), Special Provision "1" is revised to read "2, 25".

g. For the entry "Methyl mercaptan", in Column (7), Special Provisions "2," and "B9," are removed and Special Provisions "3," and "25," are added in appropriate alpha-numeric order.

h. For the entry "Nitric oxide", in Column (7), Special Provision "2," is revised to read "1, 25,".

i. For the entry "Nitric oxide and dinitrogen tetroxide mixtures", in Column (7), Special Provision "2" is revised to read "1, 25".

j. For the entry "Perchloryl fluoride", in Column (7), Special Provision "3," is removed and Special Provisions "2," "25," and "B9," are added in appropriate alpha-numeric order.

k. For the entry "Silicon tetrafluoride", in Column (7), Special Provision "4" is revised to read "2, 25".

8. In § 172.102, the following special provisions are added, removed, or revised, as indicated:

a. In paragraph (c)(1), Special Provisions 25, 29 and 30 are added and Special Provision 109 is revised.

b. In paragraph (c)(2), Special Provision A12 is revised.

c. In paragraph (c)(3), Special Provisions B14, B42, B65, B74, and B76 are revised.

d. In paragraph (c)(7)(ii), Special Provision T38 is revised. The revisions and additions read as follows:

§ 172.102 Special provisions.

* * * * *

(c) * * *

(1) * * *

Code/Special Provisions

* * * * *

25 Notwithstanding the transitional provisions of § 171.14 of this subchapter, until October 1, 1994, this material may be transported or offered for transportation in accordance with final rules published December 21, 1990 and December 20, 1991, effective October 1, 1991, and a final rule published and effective October 1, 1992.

* * * * *

29 Unless otherwise excepted by this subchapter, lithium batteries or lithium batteries contained in equipment are forbidden for transportation by passenger-carrying aircraft and passenger-carrying rail car unless approved by the Associate Administrator for Hazardous Materials Safety.

30 Sulfur which is transported domestically is not subject to the requirements of this subchapter if transported in a non-bulk packaging or is formed to a specific shape (e.g., prills, granules, pellets, pastilles, or flakes).

* * * * *

109 Rocket motors must be nonpropulsive in transportation unless approved in accordance with § 173.56 of this subchapter. A rocket motor to be considered "nonpropulsive" must be capable of unrestrained burning and must not appreciably move in any direction when ignited by any means.

* * * * *

(2) * * *

Code/Special Provisions

* * * * *

A12 Lithium batteries in equipment, which have been approved by the Associate Administrator for Hazardous Materials Safety, must not exceed, in any piece of equipment, 12 g of lithium or lithium alloy per cell and 500 g of lithium or lithium alloy per battery.

* * * * *

(3) * * *

Code/Special Provisions

* * * * *

B14 Each bulk packaging, except a tank car or a multi-unit-tank car tank, must be insulated with an insulating material so that the overall thermal conductance at 15.5° C (60° F) is no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour per square foot per degree Fahrenheit) temperature differential. Insulating materials must not promote corrosion to steel when wet. Notwithstanding the requirements in § 171.14(b)(4)(ii) of this subchapter, compliance with this provision is delayed until October 1, 1994, for a bulk packaging containing a material poisonous by inhalation which, when in contact with moisture, becomes highly corrosive to the tank and could cause a degree of corrosion under an insulation blanket that would have an adverse effect on tank integrity.

* * * * *

B42 Each 105J500W tank car must be marked as 105J200W. Each tank car must have a safety relief valve with a start-to-discharge pressure of 1,034 kPa (150 psig).

* * * * *

B65 Notwithstanding the provisions of § 173.244 of this subchapter, only DOT 105A500W tank cars are authorized. Each 105J500W tank car must be marked as 105J300W. Each tank car must have a safety relief valve with a start-to-discharge pressure of 1,551 kPa (225 psig).

* * * * *

B74 Notwithstanding the requirements of § 173.244 of this subchapter, only the following are authorized: DOT 105S300W, 105S300ALW, 112J340W, and 114J340W tank cars; and Class DOT 106 and 110 multi-unit-tank car tanks.

B76 Notwithstanding the requirements of § 173.244 of this subchapter, only the following are authorized: DOT 105S300W, 105S300ALW, 112J340W, and 114J340W tank cars. Each tank car must be marked DOT 105S200W, 105S200ALW, 112J200W, or 114J200 respectively. Each tank car must have a safety relief valve with a start-to-discharge pressure of 1,034 kPa (150 psig).

* * * * *

(7) * * *

(ii) * * * *

Code/Special Provisions

* * * * *

T38 Each tank must be insulated with an insulating material so that the overall thermal conductance at 15.5° C (60° F) is no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour per square foot per degree Fahrenheit) temperature differential. Insulating materials must not promote corrosion to steel when wet. Notwithstanding the requirements in § 171.14(b)(4)(ii) of this subchapter, compliance with this provision is delayed until October 1, 1994, for a bulk packaging containing a material poisonous by inhalation which, when in contact with moisture, becomes highly corrosive and could cause corrosion under an insulation blanket.

* * * * *

§ 172.102 [Amended]

9. In addition, in § 172.102(c)(3), Special Provision B67 is amended by removing the first sentence.

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

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

Authority: 49 App. U.S.C. 1803, 1804, 1805, 1806, 1807, 1808, 1817; 49 CFR part 1, unless otherwise noted.

11. In § 173.34, paragraph (d)(3) is revised to read as follows:

§ 173.34 Qualification, maintenance and use of cylinders.

* * * * *

(d) * * *

(3) Safety relief devices are prohibited on cylinders charged with Division 2.3 or Division 6.1 materials in Hazard Zone A. Notwithstanding the requirements in § 171.14(b)(4)(ii) of this subchapter, compliance with this provision is delayed until October 1, 1994 for cylinders filled with Division 2.3 or

Division 6.1 materials in Hazard Zone A.

* * * * *

12. In § 173.54, paragraph (l) is added to read as follows:

§ 173.54 Forbidden explosives.

* * * * *

(l) An explosive article with its means of initiation or ignition installed, unless approved in accordance with § 173.56.

§ 173.62 [Amended]

13. In § 173.62, the "Explosives Table" in paragraph (b) is amended by removing the entry "NA0150.....E–3" and adding, in appropriate alpha-numerical order, the entry "UN0150.....E–6".

§ 173.63 [Amended]

14. In § 173.63, the following changes are made:

a. In paragraph (a) introductory text, the wording "offered for transportation domestically and transported as Division 1.4 Compatibility Group D (1.4D) explosives," is revised to read "offered for transportation domestically and transported as Cord, detonating (UN 0289), Division 1.4 Compatibility Group D (1.4D) explosives,";

b. Paragraph (b) is removed and reserved.

§ 173.115 [Amended]

14a. In § 173.115, in paragraph (a), concluding text, at the end of the first sentence, the wording "Chemicals." is removed and replaced with the wording "Chemicals or other equivalent method approved by the Associate Administrator for Hazardous Materials Safety.".

§ 173.163 [Amended]

15. In § 173.163, in the first sentence, the wording "3BN," is added immediately following "3B," and immediately preceding "3C,".

16. In § 173.185, paragraph (a), paragraph (g)(1), the introductory text of paragraph (i), and paragraph (j)(1) are revised, paragraph (l) is added and reserved, and paragraph (m) is added to read as follows:

§ 173.185 Lithium batteries and cells.

(a) Except as otherwise provided in this subpart, lithium batteries and cells described in this section are authorized for transportation by highway, rail, vessel and cargo-only aircraft. Rechargeable lithium batteries and cells, and devices containing regulated lithium batteries (including lithium batteries contained in equipment) and cells, may not be transported except as approved by the Associate Administrator for Hazardous Materials Safety.

* * * * *

(g) * * *

(1) In strong inner fiberboard packagings containing not more than 500 g (17.6 ounces) of lithium or lithium alloy per inner packaging.

* * * * *

(i) Lithium batteries and cells, rechargeable lithium batteries and cells, and devices containing lithium batteries and cells, are not subject to this subchapter if they meet the following requirements:

* * * * *

(j) * * *

(1) When new, contained no more than 12.0 g (0.42 ounces) of lithium or lithium alloy per cell;

* * * * *

(l) [Reserved]

(m) Lithium batteries and cells which do not comply with the provisions of this section may be transported only if they are approved by the Associate Administrator for Hazardous Materials Safety.

§ 173.226 [Amended]

17. In § 173.226, the following changes are made:

a. In paragraph (b) introductory text, in the first sentence, the wording "In 1A1, 1B1, or 1N1 drums" is revised to read "In 1A1, 1B1, 1H1, 1N1, or 6HA1 drums"; and in the second sentence, the wording "1.50 mm (0.059 inches) for a 1A2 outer drum" is revised to read "1.35 mm (0.053 inches) for a 1A2 outer drum".

b. In paragraph (b)(4)(i)(A), the wording "and" is removed at the end of the sentence.

c. In paragraph (b)(4)(i)(B), the period is removed and replaced with ";" at the end of the sentence.

d. Paragraphs (b)(4)(i)(C) and (b)(4)(i)(D) are added.

e. In paragraph (b)(4)(ii)(B), the wording "and" is removed from the end of the sentence.

f. Paragraphs (b)(4)(ii)(C) and (b)(4)(ii)(D) are added.

g. In paragraph (b)(5), the second sentence is removed. The additions read as follows:

§ 173.226 Materials poisonous by inhalation, Division 6.1, Packing Group I, Hazard Zone A.

* * * * *

(b) * * *

(4) * * *

(i) * * *

(C) For a 1H1 drum, 3.16 mm (0.124 inches); and

(D) For a 6HA1 drum, the plastic inner container shall be 1.58 mm (0.0622 inches) and the outer steel drum shall be 0.96 mm (0.0378 inches).

(ii) * * *

(C) For a 1H1 drum, 3.16 mm (0.124 inches); and

(D) For a 6HA1 drum, the plastic inner container shall be 1.58 mm (0.0622 inches) and the outer steel drum shall be 1.08 mm (0.043 inches); and

* * * * *

§ 173.227 [Amended]

18. In § 173.227, the following changes are made:

a. In paragraph (b)(3)(i)(D), the wording "0.96 mm (0.038 inch)" is revised to read "0.70 mm (0.027 inch)".

b. In paragraph (b)(3)(ii)(C), the wording "0.125 inch" is revised to read "0.124 inch".

c. In paragraph (b)(4), the period is removed and replaced with "; and" at the end of the first sentence and the second sentence is removed.

d. In paragraph (c), in the first sentence, the wording "1H1," is added immediately following "1B1," and immediately preceding "1N1".

19. In § 173.306, paragraph (h)(3) is revised to read as follows:

§ 173.306 Limited quantities of compressed gases.

* * * * *

(h) * * *

(3) Shipments of ORM-D materials are eligible for the exceptions provided in § 173.156.

* * * * *

§ 173.306 [Amended]

20. In addition, in § 173.306, the following changes are made:

a. In paragraph (a)(3)(i), the wording "50 cubic inches (1 liter)" is revised to read "one liter (61.0 cubic inches)".

b. In paragraph (b)(1) introductory text, the wording "50 cubic inches capacity (1 liter)" is revised to read "one liter (61.0 cubic inches)".

21. In § 173.314, in paragraph (c) Table, Note 21 is amended by revising the wording "§ 173.24(b)" to read "§ 173.24b", and Note 30 is revised to read as follows:

§ 173.314 Requirements for compressed gases in tank car tanks.

* * * * *

(c) * * *

Notes:

* * * * *

Note 30: Tank cars built after September 30, 1991, must conform to Class DOT 105S. Tank cars used for the transportation of chlorine and built after September 30, 1991, must conform to Class DOT 105S and have an insulation system consisting of 5.08 cm (2

inches) of glass fiber placed over 5.08 cm (2 inches) ceramic fiber.

* * * * *

§ 173.315 [Amended]

22. In § 173.315, in the paragraph (a) table, in Note 24, a third sentence is added to read "For sulphur dioxide, this Note does not apply until October 1, 1994.".

§ 173.323 [Amended]

23. In § 173.323, in paragraph (b)(5), in the last sentence, the wording "the filled drum will not rupture when tested by the method described in CGA Pamphlet C–14 or other equivalent method." is revised to read "the filled drum is capable of passing, without rupture, the test method described in CGA Pamphlet C–14 or other equivalent method.".

PART 174—CARRIAGE BY RAIL

24. The authority citation for part 174 continues to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1808; 49 CFR 1.53(e), 1.53, App. A to part 1.

25. In § 174.81, paragraph (e)(3) is revised to read as follows:

§ 174.81 Segregation of hazardous materials.

* * * * *

(e) * * *

(3) The letter "O" in the Table indicates that these materials may not be loaded, transported, or stored together in the same rail car or storage facility during the course of transportation unless separated in a manner that, in the event of leakage from packages under conditions normally incident to transportation, commingling of hazardous materials would not occur. Notwithstanding the methods of separation employed, Class 8 (corrosive) liquids may not be loaded above or adjacent to Class 4 (flammable) or Class 5 (oxidizing) materials; except that shippers may load carload shipments of such materials together when it is known that the mixture of contents would not cause a fire or a dangerous evolution of heat or gas.

* * * * *

§ 174.81 [Amended]

26. In addition, in the Segregation Table in paragraph (d), the following changes are made:

a. In column 1, "Class or division" the title of the ninth entry "Poisonous gas other than Zone A" is revised to read "Poisonous gas Zone B" and in column 11, the column heading "2.3 gas other than Zone A" is revised to read "2.3 gas Zone B".

b. In the column "8 liquids only", for the entry "Flammable gases", the letter "O" is removed and in the column "2.1", for the entry "Corrosive liquids", the letter "O" is removed.

27. In § 174.83, paragraph (b) is revised, paragraph (c) is redesignated as paragraph (f), and new paragraphs (c) (d), and (e) are added to read as follows:

§ 174.83 Switching placarded railcars, transport vehicles, freight containers, and bulk packagings.

* * * * *

(b) Any rail car placarded in Division 1.1, 1.2, 2.3, or any Class DOT 113 tank car placarded in Division 2.1 may not be:

(1) Cut off while in motion;

(2) Coupled into with more force than is necessary to complete the coupling; or

(3) Struck by any car moving under its own momentum.

(c) A placarded flatcar, or a flatcar carrying a placarded transport vehicle, freight container, or bulk packaging under this subchapter may not be cut off while in motion.

(d) No rail car moving under its own momentum may be permitted to strike any placarded flatcar or any flatcar carrying a placarded transport vehicle, freight container, or bulk packaging.

(e) No placarded flatcar or any flatcar carrying a placarded transport vehicle, freight container, or bulk packaging may be coupled into with more force than is necessary to complete the coupling.

* * * * *

PART 177—CARRIAGE BY PUBLIC HIGHWAY

28. The authority citation for part 177 continues to read as follows:

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

29. In § 177.848, paragraph (e)(3) is revised to read as follows:

§ 177.848 Segregation of hazardous materials.

* * * * *

(e) * * *

(3) The letter "O" in the Table indicates that these materials may not be loaded, transported, or stored together in the same transport vehicle or storage facility during the course of transportation unless separated in a manner that, in the event of leakage from packages under conditions normally incident to transportation, commingling of hazardous materials would not occur. Notwithstanding the methods of separation employed, Class 8 (corrosive) liquids may not be loaded above or adjacent to Class 4 (flammable) or Class 5 (oxidizing) materials; except that shippers may load truckload shipments of such materials together when it is known that the mixture of contents would not cause a fire or a dangerous evolution of heat or gas.

* * * * *

§ 177.848 [Amended]

30. In addition, in the Segregation Table in paragraph (d), the following changes are made:

a. In column 1, "Class or division" the title of the ninth entry "Poisonous gas other than Zone A" is revised to read "Poisonous gas Zone B" and in column 11, the column heading "2.3 gas other than Zone A" is revised to read "2.3 gas Zone B".

b. In the column "8 liquids only", for the entry "Flammable gases", the letter "O" is removed and in the column "2.1", for the entry "Corrosive liquids", the letter "O" is removed.

PART 178—SPECIFICATIONS FOR PACKAGINGS

31. The authority citation for part 178 continues to read as follows:

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

§ 178.33–2 [Amended]

32. In § 178.33–2, in paragraph (b), in the first sentence, the wording "50 cubic inches (27.7 fluid ounces)." is revised to read "one liter (61.0 cubic inches).".

§ 178.33a–2 [Amended]

33. In § 178.33a–2, in paragraph (b), in the first sentence, the wording "55 cubic inches (30.5 fluid ounces)." is revised to read "one liter (61.0 cubic inches).".

PART 179—SPECIFICATIONS FOR TANK CARS

34. 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.

35. Section 179.100–7 is amended by redesignating paragraph (c) as paragraph (d) and adding a new paragraph (c) to read as follows:

§ 179.100–7 Materials.

* * * * *

(c) *High alloy steel plate.* (1) High alloy steel plate must conform to the following specifications:

Specifications	Minimum tensile strength (p.s.i.) welded condition[1]	Minimum elongation in 2 inches (percent) weld metal (longitudinal)
ASTM A240–70, Type 304L	70,000	30
ASTM A240–70, Type 316L	70,000	30

[1] Maximum stresses to be used in calculations.

(2)(i) High alloy steels used to fabricate tank must be tested in accordance with the following procedures in ASTM Specification A262–68 titled, "Recommended Practices for Detecting Susceptibility to Intergranular Attack in Stainless Steel," and must exhibit corrosion rates not exceeding the following:

Test procedures	Material	Corrosion rate i.p.m.
Practice B	Types 304L and 316L.	0.0040
Practice C	Type 304L ...	0.0020

(ii) Type 304L and 316L test specimens must be given a sensitizing treatment prior to testing.

* * * * *

36. In § 179.100–10, a new paragraph (c) is added to read as follows:

§ 179.100–10 Postweld heat treatment.

* * * * *

(c) Tank and welded attachments, fabricated from ASTM A240–70 Type 304L or Type 316L materials do not require postweld heat treatment, but these materials do require a corrosion resistance test as specified in § 179.100–7(c)(2).

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Rose A. McMurray,

Acting Administrator, Research and Special Programs Administration.

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