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Hazardous Materials: Harmonization With the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Organization's Technical Instructions; Final Rule

DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

49 CFR Parts 171, 172, 173, 175, 176, 178 and 180

[Docket No. PHMSA–06–25476 (HM–215I)]

RIN 2137–AE16

Hazardous Materials: Harmonization With the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Oganization's Technical Instructions

AGENCY: Pipeline and Hazardous Materials Safety Administration (PHMSA), DOT.

ACTION: Final rule.

SUMMARY: This final rule revises the Hazardous Materials Regulations to maintain alignment with international standards by incorporating various amendments, including changes to proper shipping names, hazard classes, packing groups, special provisions, packaging authorizations, air transport quantity limitations and vessel stowage requirements. These revisions will harmonize the Hazardous Materials Regulations with certain recent changes to the International Maritime Dangerous Goods Code, the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air, and the United Nations Recommendations on the Transport of Dangerous Goods.

DATES: *Effective date:* January 1, 2007.

Voluntary Compliance Date: PHMSA is authorizing voluntary compliance beginning January 1, 2007.

Delayed Compliance Date: Unless otherwise specified, mandatory compliance with the amendments adopted in this final rule is required beginning January 1, 2008.

Incorporation by Reference Date: The incorporation by reference of the publications adopted in § 171.7 of this final rule has been approved by the Director of the Federal Register as of January 1, 2007.

FOR FURTHER INFORMATION CONTACT: Charles Betts, Office of Hazardous Materials Standards, telephone (202) 366–8553, or Shane Kelley, International Standards, telephone (202) 366–0656, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590–0001.

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I. Background

By notice of proposed rulemaking (NPRM) published August 31, 2006, the Pipeline and Hazardous Materials Safety Administration (PHMSA, we) published proposed revisions to the hazard communication, classification, and packaging requirements of the Hazardous Materials Regulations (HMR), 49 CFR parts 171–180, to align with updates and revisions to the United Nations Recommendations on the Transport of Dangerous Goods (UN Recommendations), the International Maritime Dangerous Goods (IMDG) Code and the International Civil Aviation Organization (ICAO) Technical Instructions for the Transport of Dangerous Goods by Air. The UN Recommendations are amended and updated biennially by the UN Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labeling of Chemicals and serve as the basis for national, regional, and international modal regulations, including the IMDG Code, and the ICAO Technical Instructions.

The harmonization of domestic and international standards becomes increasingly important as the volume of hazardous materials transported in international commerce grows. Harmonization facilitates international trade by minimizing the costs and other burdens of complying with multiple or inconsistent safety requirements for transportation of hazardous materials to and from the United States. By facilitating compliance, harmonization also tends to enhance safety for international movements, but only if the international standards themselves provide an appropriate level of safety. To that end, PHMSA actively participates in the development of international standards for the transportation of hazardous materials, frequently advocating the adoption in international standards of particular HMR requirements. When considering the adoption of international standards under the HMR, we review and consider each amendment on its own merit. Each amendment is considered on the basis of its overall impact on transportation safety and the economic implications associated with its adoption into the HMR. Our goal is to harmonize without diminishing the level of safety currently provided by the HMR and without imposing undue burdens on the regulated public.

To maintain alignment of the HMR with international requirements, in this final rule, we are incorporating changes into the HMR based on the Fourteenth revised edition of the UN Recommendations and UN Manual of Tests and Criteria, Amendment 33 to the IMDG Code, and the 2007–2008 ICAO Technical Instructions, which become effective January 1, 2007. We are also addressing petitions for rulemaking concerning harmonization with international standards and additional measures to facilitate international transportation.

The comment period for the proposed rule closed on October 16, 2006. PHMSA received 28 comments in response to the proposed rulemaking. The following individuals, companies and organizations submitted comments:

(1) Georgia Department of Public Safety (GPS; PHMSA–06–25476–4);
(2) North American Transportation Consultants (NATC; PHMSA–06–25476–7);
(3) Lawrence Laude (Laude; PHMSA–06–25476–8);
(4) United Parcel Service (UPS; PHMSA–06–25476–9);
(5) Christopher L. Botteri (Botteri; PHMSA–06–25476–10);
(6) Dennis Eisenhofer (Eisenhofer; PHMSA–06–25476–11);
(7) HMT Associates (HMT; PHMSA–06–25476–12);
(8) Phillip Adamo (Adamo; PHMSA–06–25476–13);
(9) Institute of Makers of Explosives (IME; PHMSA–06–25476–14);
(10) J & S Warehouse (J&S; PHMSA–06–25476–17);
(11) Rising Star Transportation (RST; PHMSA–06–25476–18);
(12) National Tank Truck Carriers (NTTC; PHMSA–06–25476–19);
(13) Air Products and Chemicals (AP&C; PHMSA–06–25476–20);
(14) All Chemical Transport and Leasing (AllChem; PHMSA–06–25476–21);

(15) International Sanitary Supply Association (ISSA; PHMSA–06–25476–22);
(16) American Trucking Association (ATA; PHMSA–06–25476–23);
(17) The Chlorine Institute (CI; PHMSA–06–25476–24);
(18) International Vessel Operators Hazardous Materials Association, Inc. (VOHMA; PHMSA–06–25476–25);
(19) Arkema (Arkema; PHMSA–06–25476–26);
(20) Unidentified commenter (UC1; PHMSA–06–25476–28);
(21) Laboratory Corporation of America Holdings (LabCorp; PHMSA–06–25476–29);
(22) Unidentified commenter (UC2; PHMSA–06–25476–30);
(23) National Association of Chemical Distributors (NACD; PHMSA–06–25476–31);
(24) National Paint & Coating Association (NPCA; PHMSA–06–25476–33);
(25) Dangerous Goods Advisory Council (DGAC; PHMSA–06–25476–34);
(26) Degussa Corporation (Degussa; PHMSA–06–25476–35);
(27) Federal Express (FedEx; PHMSA–06–25476–36): and
(28) Association of HazMat Shippers, Inc. (AHS; PHMSA–06–25476–37).

Commenters were supportive of PHMSA's efforts to harmonize the HMR with international standards. Many of the proposals in the NPRM are fully supported by commenters, while others received little or no comment; these amendments are adopted as proposed. Several comments were beyond the scope of this rulemaking and are not addressed in this final rule.

In the NPRM, we requested comments on whether certain amendments should be tied to a sunset provision. We received six comments (GPS, IME, NTTC, AP&C, ATA, and NPCA) opposing the idea of a sunset provision. We agree with the commenters that for an international harmonization rulemaking, sunsetting some or all of the regulatory provisions is not appropriate. Therefore, we are not adopting a sunset provision for the amendments in this final rule. Other comments are discussed in the Section-by-Section Review.

II. Overview

A. Amendments Adopted in This Final Rule

In this final rule, we are adopting the following amendments to the HMR:

- Adoption of a single shipping paper description sequence (identification number, proper shipping name, hazard class or division, packing group).
- Requirement to indicate the net quantity of hazardous material per package on the shipping paper if transportation is by aircraft.
- Incorporation by reference of the updated ICAO Technical Instructions, IMDG Code, and UN Recommendations.
- Amendments to the Hazardous Materials Table (HMT) to add, revise, or remove certain proper shipping names, hazard classes, packing groups, special provisions, packaging authorizations, bulk packaging requirements, passenger and cargo aircraft maximum quantity limitations and vessels stowage provisions.
- Revision of the ORGANIC PEROXIDE label and placard.
- Revision of the classification criteria for PG III flammable liquids.
- Revision of the classification criteria and packing group assignments for Division 6.1 materials.
- Requirements for the transportation of fuel cells containing flammable liquid.
- Adoption of a one-packet limit for matches carried by airline passengers or crew members.

B. International Standards Not Being Adopted in This Final Rule

This final rule makes changes to the HMR based on amendments to the Fourteenth revised edition of the UN Recommendations, Amendment 33 to the IMDG Code, and the 2007–2008 ICAO Technical Instructions, which become effective January 1, 2007. However, we are not adopting all of the amendments to those documents into the HMR. In many cases, amendments to the international regulations have not been adopted because the framework or structure of the HMR makes adoption unnecessary. In other cases, we have handled, or will be handling, the amendments in separate rulemaking proceedings. For example, we addressed requirements related to the transportation of infectious substances in a final rule published June 2, 2006, under Docket HM–226A (71 FR 32244). Similarly, we adopted amendments relating to the use of UN cylinders and pressure vessels in a final rule published June 12, 2006, under Docket HM–220E (71 FR 33858).

One of the goals of this rulemaking is to continue to maintain consistency between the HMR and the international requirements. We are not striving to make the HMR identical to the international regulations but rather to remove or avoid potential barriers to international transportation.

Below is a listing of significant amendments to the international regulations that we are not adopting in this final rule with a brief explanation of why the amendment was not included:

- *Environmentally hazardous substances.* The UN Recommendations include new defining criteria for environmentally hazardous substances. The UN criteria have not yet been adopted by ICAO and IMO. We will consider these changes in a separate rulemaking proceeding.
- *Hazardous materials security.* Like the HMR, the UN Recommendations require carriers, consignors and others engaged in the transport of ''high consequence'' dangerous goods to adopt, implement and comply with a security plan that addresses the transportation risks associated with these materials. A major difference between the HMR and the UN Recommendations is the quantity of hazardous material that triggers the requirement for a security plan. On September 21, 2006, PHMSA published an advance notice of proposed rulemaking (71 FR 55156) to consider revisions to the list of hazardous materials that triggers security plan requirements under the HMR. We will consider whether the HMR list should be harmonized with the UN Recommendations list as part of this initiative.
- *Requirements for radioactive materials.* We are not adopting provisions pertaining to the transportation of Class 7 (radioactive) materials. Amendments to requirements pertaining to the transportation of Class 7 materials are based on changes contained in the International Atomic Energy Agency (IAEA) publication, ''IAEA Safety Standards Series: Regulations for the Safe Transport of Radioactive Materials.'' Due to their complexity, these changes will be addressed in a separate rulemaking.
- *Default classification system for fireworks.* We are not adopting these provisions of the UN Recommendations because we do not believe the UN classification system provides an equivalent level of safety to the current HMR requirements. Under the HMR, fireworks must be classed and approved by the Associate Administrator for Hazardous Materials Safety; the approvals are based on American Pyrotechnic Association Standard 87–1.
- *Fuel cells.* We are not adopting provisions for the carriage of fuel cell cartridges in the passenger cabin of a passenger aircraft that were adopted by ICAO. Also, we are not adopting the packaging provisions for the transport of ''Hydrogen in a metal hydride storage system,'' (UN3468), as adopted by ICAO. Currently, the HMR allow

transportation of these storage systems by motor vehicle and rail under the terms of a special permit and by motor vehicle, rail, cargo vessel and cargo aircraft with approval of the Associate Administrator. These issues will be considered in a separate rulemaking proceeding.

• *Marking of Limited Quantity shipments.* The ICAO Technical Instructions include a marking requirement for packages containing a limited quantity of hazardous material. The mark consists of the identification number of the material placed within a square-on-point border. The marking is anticipated to become effective January 1, 2009. Except for transportation by aircraft, this marking is currently authorized under the HMR as an alternative to marking the proper shipping name on the package; we are allowing continued use of this marking to minimize transportation costs and provide flexibility.

III. Section-by-Section Review

Part 171

Section 171.7

Section 171.7 lists the standards incorporated by reference into the HMR. We are updating the incorporation by reference materials for the ICAO Technical Instructions, the IMDG Code, the UN Recommendations and the UN Manual of Tests and Criteria. The updated editions of these standards become effective January 1, 2007. We did not receive comments opposing these incorporations by reference; therefore the standards are updated as follows:

• The ICAO Technical Instructions, 2007–2008 Edition.

• The IMDG Code, Amendment 33–06.

• The UN Recommendations, Fourteenth revised edition.

• The UN Manual of Tests and Criteria, Fourth revised edition (2003), and Addendum 2 (2004).

Section 171.14

This section lists specific transition periods for certain provisions adopted into the HMR. Comments pertaining to transition periods are discussed below.

Paragraph (b) lists transitional provisions related to revised placarding requirements. In this final rule, we are removing paragraph (b) because the transition period has expired.

Paragraph (d) of this section specifies transitional provisions for previously adopted amendments intended to harmonize the HMR with international standards. We are revising this paragraph to provide specific transitional provisions for certain amendments in this final rule. The effective date of this final rule is January 1, 2007, and the mandatory compliance date is January 1, 2008. We are permitting voluntary compliance as of January 1, 2007, to correspond with the effective implementation dates of the 2007–2008 ICAO Technical Instructions and Amendment 33–06 of the IMDG Code. This authorization allows shippers to prepare their international shipments in accordance with international standards that will become effective on January 1, 2007.

Paragraph (e) of this section contains an outdated transitional provision. In this final rule, we are replacing the outdated transitional provision with a new paragraph (e) that permits use for domestic shipments of the shipping description sequences in effect on December 31, 2006, until January 1, 2013. See the § 172.202 preamble discussion for a complete explanation of the shipping description sequence issue.

Paragraph (f) of this section contains an outdated transitional provision. We are revising paragraph (f) by removing the current provision and adding a transitional provision to allow continued display of Division 5.2 labels and placards conforming to the specifications in effect on December 31, 2006, until January 1, 2014 for transportation by highway and until January 1, 2011 for transportation by rail, vessel or aircraft. See the §§ 172.407, 172.427 and 172.552 preamble discussions for a complete explanation of this issue.

In new paragraph (g), we are allowing continued use of the Class 3 and Division 6.1 classification criteria and packing group assignments in effect on December 31, 2006, until January 1, 2012. See §§ 173.120 and 174.133 preamble discussions for a complete explanation of this issue.

Part 172

Section 172.101

Section 172.101 contains the Hazardous Materials Table (HMT) and explanations for each of the columns in the HMT. Paragraph (d) of this section addresses column 3 of the HMT containing the hazard class or division for each specific material listed in the HMT. Paragraph (d)(4) addresses entries classed as combustible liquids. In the NPRM, we proposed to revise paragraph (d)(4) to revise the lower limit for classing a material as a combustible liquid from 60.5 °C (141 °F) to 60 °C (140 °F). This is consistent with recent changes to the classification of flammable liquids based on the adoption of the GHS within the UN Recommendations. We did not receive comments opposing this proposal; therefore, it is adopted in this final rule.

The § 172.101 Hazardous Materials Table (HMT)

In this final rule, we are making various amendments to the § 172.101 Hazardous Materials Table (HMT). Readers should review all changes for a complete understanding of the Table amendments. For purposes of the Government Printing Office's typesetting procedures, changes to the HMT appear under three sections of the Table, ''remove,'' ''add'' and ''revise.'' Certain entries in the HMT, such as those with revisions to the proper shipping names, will appear as a ''remove'' and ''add.'' We did not receive comments opposing the changes to the HMT proposed in the NPRM. Therefore, in this final rule we are adopting the following amendments to the HMT for the purpose of harmonizing with international standards:

1. We are correcting Column (7) Special provisions of the HMT by removing Special Provision 101 which requires the name of the particular substance or article to be specified. With the introduction of the letter ''G'' for these materials in Column (1), requiring the n.o.s. and generic proper shipping names to be supplemented with the technical name of the hazardous material, Special Provision 101 becomes obsolete and duplicative. The affected entries are as follows:

UN0349	Articles, explosive, n.o.s.
UN0350	Articles, explosive, n.o.s.
UN0351	Articles, explosive, n.o.s.
UN0352	Articles, explosive, n.o.s.
UN0353	Articles, explosive, n.o.s.
UN0354	Articles, explosive, n.o.s.
UN0355	Articles, explosive, n.o.s.
UN0356	Articles, explosive, n.o.s.
UN0462	Articles, explosive, n.o.s.
UN0463	Articles, explosive, n.o.s.
UN0464	Articles, explosive, n.o.s.
UN0465	Articles, explosive, n.o.s.
UN0466	Articles, explosive, n.o.s.
UN0467	Articles, explosive, n.o.s.
UN0468	Articles, explosive, n.o.s.
UN0469	Articles, explosive, n.o.s.
UN0470	Articles, explosive, n.o.s.
UN0471	Articles, explosive, n.o.s.
UN0472	Articles, explosive, n.o.s.
UN0382	Components, explosive train, n.o.s.
UN0383	Components, explosive train, n.o.s.
UN0384	Components, explosive train, n.o.s.
UN0461	Components, explosive train, n.o.s.
UN0357	Substances, explosive, n.o.s.
UN0358	Substances, explosive, n.o.s.
UN0359	Substances, explosive, n.o.s.
UN0473	Substances, explosive, n.o.s.
UN0474	Substances, explosive, n.o.s.
UN0475	Substances, explosive, n.o.s.
UN0476	Substances, explosive, n.o.s.
UN0477	Substances, explosive, n.o.s.

UN0478 Substances, explosive, n.o.s.
UN0479 Substances, explosive, n.o.s.
UN0480 Substances, explosive, n.o.s.
UN0481 Substances, explosive, n.o.s.
UN0485 Substances, explosive, n.o.s.
UN0482 Substances, explosive, very insensitive, n.o.s. *or* Substances, EVI, n.o.s.

2. Amendment 32 of the IMDG Code added a new segregation group for alkalis. For consistency with international regulations and in response to a petition from Horizon Lines (P–1470), we are revising the Vessel stowage provisions in Column (10B) by adding Segregation Code ''52'' (Stow ''Separated from'' acids) to certain entries. The affected entries are as follows:

UN2733 Amines, flammable, corrosive, n.o.s. *or* Polyamines, flammable, corrosive, n.o.s.
UN2671 Aminopyridines *(o-; m-; p-)*
UN1005 Ammonia, anhydrous
UN3318 Ammonia solution, *relative density less than 0.880 at 15 degrees C in water, with more than 50 percent ammonia*
UN2672 Ammonia solutions, *relative density between 0.880 and 0.957 at 15 degrees C in water, with more than 10 percent but not more than 35 percent ammonia*
UN2073 Ammonia solutions, *relative density less than 0.880 at 15 degrees C in water, with more than 35 percent but not more than 50 percent ammonia*
UN3028 Batteries, dry, containing potassium hydroxide solid, *electric, storage*
UN2795 Batteries, wet, filled with alkali, *electric storage*
UN2797 Battery fluid, alkali
UN2682 Caesium hydroxide
UN2681 Caesium hydroxide solution
UN1719 Caustic alkali liquids, n.o.s.
UN1160 Dimethylamine solution
UN2379 1, 3-Dimethylbutylamine
UN2382 Dimethylhydrazine, symmetrical
UN1163 Dimethylhydrazine, unsymmetrical
UN3253 Disodium trioxosilicate
UN2491 Ethanolamine *or* Ethanolamine solutions
UN2270 Ethylamine, aqueous solution *with not less than 50 percent but not more than 70 percent ethylamine*
UN1604 Ethylenediamine
UN2386 1-Ethylpiperidine
UN2029 Hydrazine, anhydrous
UN3293 Hydrazine, aqueous solution, *with not more than 37 percent hydrazine, by mass*
UN2030 Hydrazine, aqueous solution, *with more than 37 percent hydrazine, by mass*
UN2680 Lithium hydroxide
UN2679 Lithium hydroxide, solution
UN1235 Methylamine, aqueous solution
UN1244 Methylhydrazine
UN2399 1-Methylpiperidine
UN1813 Potassium hydroxide, solid
UN1814 Potassium hydroxide, solution
UN2033 Potassium monoxide
UN1922 Pyrrolidine
UN2678 Rubidium hydroxide
UN2677 Rubidium hydroxide solution
UN1907 Soda lime *with more than 4 percent sodium hydroxide*
UN1819 Sodium aluminate, solution
UN2318 Sodium hydrosulfide, *with less than 25 percent water of crystallization*
UN1823 Sodium hydroxide, solid
UN1824 Sodium hydroxide solution
UN1825 Sodium monoxide
UN1849 Sodium sulfide, hydrated *with not less than 30 percent water*
UN2320 Tetraethylenepentamine
UN3073 Vinylpyridines, stabilized

3. The entry ''Aerosols, *non-flammable, (each not exceeding 1 L capacity)*,'' UN1950, is revised by adding vessel storage location code ''A'' in Column (10A). This code was inadvertently removed in a final rule published September 23, 2005 under Docket HM–189Y (70 *FR* 56084).

4. The entry ''Antimony trichloride, solid,'' UN1733, PG II, is revised by adding Special Provisions T3 and TP33. Special Provision T3 specifies the applicable minimum test pressure, the minimum shell thickness, bottom opening requirements and pressure relief requirements when transporting this material in a UN portable tank. Special Provision TP33 specifies requirements applicable to the transportation of this material in IM and UN Specification portable tanks.

5. The entry, ''Articles, explosive, extremely insensitive *or* Articles, EEI,'' UN0486, is revised by removing Special Provision 101 which requires the name of the particular substance or article to be specified.

6. The entry ''Benzyl bromide,'' UN1737, PG II, is revised by removing the reference to § 173.153 ''Exceptions for Division 6.1 (poisonous materials)'' in Column (8A).

7. The entry ''Benzyl chloride,'' UN1738, PG II, is revised by removing the reference to § 173.153 ''Exceptions for Division 6.1 (poisonous materials)'' in Column (8A).

7a. The entry ''Calcium hypochlorite, hydrated *or* Calcium hypochlorite, hydrated mixtures,'' UN2880, PG II, is revised by removing Special Provision 166.

8. In accordance with changes in the Fourteenth revised edition of the UN Recommendations, we are removing the following entries:

—''Carbon dioxide and nitrous oxide mixtures,'' UN1015;
—''Carbon dioxide and oxygen mixtures, compressed,'' UN1014; and
—''Carbon monoxide and hydrogen mixture, compressed,'' UN2600.

9. The entry, ''Charges, shaped, flexible, linear,'' UN0288, is revised by removing Special Provision 101, which requires the name of the particular substance or article to be specified.

10. The entry ''Chlorosilanes, corrosive, n.o.s.,'' UN2987, PG II, is revised by removing the reference to § 173.154 ''Exceptions for Class 8 (corrosive materials)'' in Column (8A).

11. The entry ''Chlorosilanes, flammable, corrosive, n.o.s.,'' UN2985, PG II, is revised by removing the reference to § 173.150 ''Exceptions for Class 3 (flammable) and combustible liquids'' in Column (8A).

12. The entry ''Chlorosilanes, toxic, corrosive, n.o.s.,'' UN3361, PG II, is revised by removing the reference to § 173.153 ''Exceptions for Division 6.1 (poisonous materials)'' in Column (8A).

13. The entry ''Chlorosilanes, toxic, corrosive, flammable, n.o.s.,'' UN3362, PG II, is revised by removing the reference to § 173.153 ''Exceptions for Division 6.1 (poisonous materials)'' in Column (8A).

14. The entry ''Chromium trioxide, anhydrous,'' UN1463, Column (6) is revised by adding the Division 6.1 subsidiary hazard labeling requirement.

15. The entry ''Compressed gas, n.o.s.,'' UN1956, is revised by adding Special Provision 77. Special Provision 77 requires, for domestic transportation, a Division 5.1 subsidiary risk label when a carbon dioxide and oxygen mixture contains more than 23.5% oxygen.

16. The entry, ''Contrivances, water-activated, *with burster, expelling charge or propelling charge,*'' UN0248, is revised by removing Special Provision 101, which requires the name of the particular substance or article to be specified. In addition, the letter ''G'' is added to Column (1), requiring the proper shipping name to be supplemented with the technical name of the hazardous material.

17. The entry, ''Contrivances, water-activated, *with burster, expelling charge or propelling charge,*'' UN0249, is revised by removing Special Provision 101, which requires the name of the particular substance or article to be specified. In addition, the letter ''G'' is added to Column (1), requiring the proper shipping name to be supplemented with the technical name of the hazardous material.

18. The entry ''Corrosive liquid, acidic, inorganic, n.o.s.,'' UN3264, PG II, is revised by removing Special Provision A6. Special Provision A6 specifies that for combination packagings, if plastic inner packagings are used, they must be packed in tightly closed metal receptacles before packing in outer packagings. Special Provision A6 applies only to the PG I entry of this material.

19. The proper shipping name for the entry ''Crotonaldehyde, stabilized,''

UN1143, is revised to read ''Crotonaldehyde *or* Crotonaldehyde, stabilized'' and to add new Special Provision 175. New Special Provision 175 specifies this material is required to be stabilized when in concentrations of not more than 99%. The revision appears as a ''Remove/Add'' in this rulemaking.

20. The proper shipping name for the entry ''Crotonic acid, *liquid,*'' UN2823, is corrected to read ''Crotonic acid, liquid'' and the Identification Number is revised to read ''UN3472.'' This revision appears as a ''Remove/Add'' in this rulemaking.

21. The proper shipping name for the entry ''Crotonic acid, *solid,*'' UN2823, is corrected to read ''Crotonic acid, solid,'' UN2823. This correction appears as a ''Remove/Add'' in this rulemaking.

22. In accordance with the ICAO Technical Instructions, the entry ''Dangerous Goods in Machinery *or* Dangerous Goods in Apparatus,'' UN3363, is revised by adding quantity limits for transportation by aircraft. The quantity limits are specified in new Special Provision A105.

23. The entry ''Ethyltrichlorosilane,'' UN1196, PG II, is revised by removing the reference to § 173.150 ''Exceptions for Class 3 (flammable) and combustible liquids'' in Column (8A).

24. The entry ''Formic acid,'' UN1779, is revised to read ''Formic acid *with more than 85% acid by mass,*'' and the Class 3 subsidiary hazard is added in Column (6). This revision appears as a ''Remove/Add'' in this rulemaking.

25. A new entry, ''Formic acid *with not less than 10% but not more than 85% acid by mass,*'' UN3412, is added.

26. A new entry, ''Formic acid *with not less than 5% but less than 10% acid by mass,*'' UN3412, is added.

27. A new entry, ''Fuel cell cartridges *containing flammable liquids,*'' UN3473, is added.

28. The entry ''Hydrazine aqueous solutions, *with more than 37% hydrazine, by mass,*'' UN2030, PG I, is revised by removing Special Provision 151. Special Provision 151 specifies that if this material meets the definition of a flammable liquid in § 173.120 of the HMR, a FLAMMABLE LIQUID label is required and the basic description on the shipping paper must indicate the Class 3 subsidiary hazard. Changes to the Fourteenth revised edition of the UN Recommendations removed this requirement. Shipping paper and labeling requirements for materials with subsidiary hazards are addressed in §§ 172.202 and 172.402, respectively.

28a. The entry ''Hydrogen in a metal hydride storage system,'' UN3468, is revised by amending Column (9B) to authorize 100 kg gross.

29. The entry ''Hydrogen peroxide and peroxyacetic acid mixtures, stabilized *with acids, water, and not more than 5 percent peroxyacetic acid,*'' UN3149, is revised by adding Special Provision IP5. When this material is transported in an IBC, Special Provision IP5 specifies the IBC must have a device to allow venting.

30. The entry ''Hydrogen peroxide, aqueous solutions *with more than 40 percent but not more than 60 percent hydrogen peroxide (stabilized as necessary),*'' UN2014, is revised by adding Special Provision IP5. When this material is transported in an IBC, Special Provision IP5 specifies the IBC must have a device to allow venting.

31. The entry ''Hydrogen peroxide, aqueous solutions *with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary),*'' UN2014, is revised by adding Special Provision IP5. When this material is transported in an IBC, Special Provision IP5 specifies the IBC must have a device to allow venting.

32. The entry ''Hydrogen peroxide, aqueous solutions *with not less than 8 percent but less than 20 percent hydrogen peroxide (stabilized as necessary),*'' UN2984, is revised by adding Special Provision IP5. When this material is transported in an IBC, Special Provision IP5 specifies the IBC must have a device to allow venting.

33. The entry ''Hydrogen peroxide, stabilized *or* Hydrogen peroxide aqueous solutions, stabilized *with more than 60 percent hydrogen peroxide,*'' UN2015, is revised by removing Special Provision T10 and adding Special Provision T9. When this material is transported in a UN portable tank, Special Provision T10 requires the UN portable tank pressure relief device to comply with the requirements specified in § 178.275(g)(3) of the HMR. The addition of Special Provision T9 removes this requirement.

34. For the entry ''Hydrogen-difluorides, n.o.s.,'' UN1740, PG II and III, the proper shipping name is revised to read ''Hydrogendifluorides, solid, n.o.s.'' This revision appears as a ''Remove/Add'' in this rulemaking.

35. A new entry ''Hydrogendifluorides, solution, n.o.s.,'' UN3471, PG II and III, is added.

36. The entry ''Hydroquinone, solid,'' UN2662, is removed.

37. The entry ''Hydroquinone solution,'' UN3435, is removed.

38. The entry ''Hypochlorite solutions,'' UN1791, PG II, is revised by adding Special Provision IP5. When this material is transported in an IBC, Special Provision IP5 specifies the IBC must have a device to allow venting.

39. For the entry ''Lead phosphite, dibasic,'' UN2989, PG II, the quantity limitations in Columns (9A) and (9B) are revised to read 15 kg and 50 kg, respectively.

40. For the entry ''Lead phosphite, dibasic,'' UN2989, PG III, the quantity limitations in Columns (9A) and (9B) are revised to read 25 kg and 100 kg, respectively.

41. The entry ''Methylphenyl dichlorosilane,'' UN2437, PG II, is revised by removing the reference to § 173.154 ''Exceptions for Class 8 (corrosive materials)'' in Column (8A).

42. The entry ''Motor fuel anti-knock mixtures,'' UN1649, is corrected by removing the subsidiary hazard label requirement in Column (6).

42a. A new entry ''Nitric acid *other than red fuming, with not more than 20 percent nitric acid,*'' UN2031, PG II, is added.

42b. The entry ''Organoarsenic compound, liquid, n.o.s.,'' UN3280, PG I, II, and III, is corrected by inserting the symbol ''G'' in Column (1).

43. The entry ''Organometallic substance, solid, pyrophoric,'' UN3391, PG I, is revised by correcting the Column (8B) Non-bulk packaging entry ''181'' to read ''187.''

44. The entry ''Organometallic substance, solid, pyrophoric, water-reactive,'' UN3393, PG I, is revised by correcting the Column (8B) Non-bulk packaging entry ''181'' to read ''187.''

45. A new entry, ''Paint, corrosive, flammable (*including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base*),'' UN3470, PG II, is added.

46. A new entry ''Paint, flammable, corrosive (*including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base*),'' UN3469, PG I, II, and III, is added.

47. The entry ''Paint *including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base,*'' UN1263, is revised by adding the following Special Provisions to the PG I, II, and III entries, respectively:

—TP27 to specify that when this material is transported in an IM or UN Specification portable tank, a portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the maximum allowable working pressure of the material, as defined in § 178.275 of the HMR, where the test pressure is 1.5 times the maximum allowable working pressure.

—TP28 to specify that when this material is transported in an IM or UN Specification portable tank, a portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the maximum allowable working pressure of the material, as defined in § 178.275 of the HMR, where the test pressure is 1.5 times the maximum allowable working pressure.

—TP29 to specify that when this material is transported in an IM or UN Specification portable tank, a portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the maximum allowable working pressure of the material, as defined in § 178.275 of the HMR, where the test pressure is 1.5 times the maximum allowable working pressure.

48. The entry ''Paint *or* Paint related materials,'' UN3066, is revised by adding the following Special Provisions to the PG II and III entries, respectively:

—TP28 to specify that when this material is transported in an IM or UN Specification portable tank, a portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the maximum allowable working pressure of the material, as defined in § 178.275 of the HMR, where the test pressure is 1.5 times the maximum allowable working pressure.

—TP29 to specify that when this material is transported in an IM or UN Specification portable tank, a portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the maximum allowable working pressure of the material, as defined in § 178.275 of the HMR, where the test pressure is 1.5 times the maximum allowable working pressure.

49. A new entry, ''Paint related material, corrosive, flammable (*including paint thinning or reducing compound*),'' UN3470, PG II, is added.

50. A new entry, ''Paint related material, flammable, corrosive (*including paint thinning or reducing compound*),'' UN3469, PG I, II, and III is added.

51. The entry ''Paint related material *including paint thinning, drying, removing, or reducing compound,*'' UN1263, is revised by adding the following Special Provisions to the PG I, II, and III entries, respectively:

—TP27 to specify that when this material is transported in an IM or UN Specification portable tank, a portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the maximum allowable working pressure of the material, as defined in § 178.275 of the HMR, where the test pressure is 1.5 times the maximum allowable working pressure.

—TP28 to specify that when this material is transported in an IM or UN Specification portable tank, a portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the maximum allowable working pressure of the material, as defined in § 178.275 of the HMR, where the test pressure is 1.5 times the maximum allowable working pressure.

—TP29 to specify that when this material is transported in an IM or UN Specification portable tank, a portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the maximum allowable working pressure of the material, as defined in § 178.275 of the HMR, where the test pressure is 1.5 times the maximum allowable working pressure.

52. The entry ''Plastic molding compound *in dough, sheet or extruded rope form evolving flammable vapor,* UN3314, PG III, is revised by removing Vessel stowage location A and adding location E in Column (10A), and by removing Vessel stowage provision 85 and adding Vessel stowage provisions 19, 21, 25 and new Vessel stowage provision 144 in Column (10B).

53. The entry ''Polymeric beads, expandable, *evolving flammable vapor,* UN2211, PG III, is revised by removing stowage location A and adding location E in Column (10A), and by removing Vessel stowage provision 85 and adding Vessel stowage provisions 19, 21, 25 and new Vessel stowage provision 144 in Column (10B).

54. For the entry ''Propionic acid,'' UN1848, the proper shipping name is revised to read, ''Propionic acid *with not less than 10% and less than 90% acid by mass.*'' This revision appears as a ''Remove/Add'' in this rulemaking.

55. A new entry, ''Propionic acid *with not less than 90% acid by mass*,'' UN3463, is added.

56. The entry ''Rare gases mixtures, compressed,'' UN1979, is removed.

57. The entry ''Rare gases and oxygen mixtures, compressed,'' UN1980, is removed.

58. The entry ''Rare gases and nitrogen mixtures, compressed,'' UN1981, is removed.

59. The proper shipping name ''Regulated medical waste,'' UN3291, is removed and a new proper shipping name ''Regulated medical waste, n.o.s. *or* Clinical waste unspecified, n.o.s. *or* (BIO) Medical waste, n.o.s.,'' UN3291, is added in its place.

60. For the international entry for ''Sulfur,'' UN1350, the quantity limitations in Columns (9A) and (9B) are revised to read 25 kg and 100 kg, respectively.

61. The entry ''Trimethylchlorosilane,'' UN1298, PG II, is revised by removing the reference to § 173.150 ''Exceptions for Class 3 (flammable) and combustible liquids'' in Column (8A).

Also, *see* § 172.102 for additional HMT amendments.

Appendix B to § 172.101

Appendix B to § 172.101 lists Marine Pollutants regulated under the HMR. For the entry ''Copper chloride'' we are adding the designation ''PP'' to indicate that copper chloride is a severe marine pollutant. We are also correcting an oversight by removing the entries ''Alcohol C–13—C–15 poly (1–6) ethoxylate'' and ''1,2-Dichlorobenzene.'' Removal of the entry ''Alcohol C–13—C–15 poly (1–6) ethoxylate'' was overlooked in a final rule published December 20, 2004 under Docket HM–215G (69 *FR* 76044) and removal of the entry ''1,2-Dichlorobenzene'' was overlooked in a final rule published June 21, 2001 under Docket HM–215D (66 *FR* 33316).

Section 172.102

Section 172.102 lists a number of special provisions applicable to the transportation of specific hazardous materials. Special provisions contain packaging provisions, prohibitions, and exceptions applicable to particular quantities or forms of hazardous materials. We did not receive comments opposing the revisions proposed in the NPRM; therefore, in this final rule for consistency with international standards, we are amending § 172.102 Special provisions, as follows:

• Special Provision 15 specifies the types of materials and packaging requirements for chemical kits and first aid kits. We are revising Special Provision 15 to list examples that may be described as ''Chemical kits'' and ''First aid kits.''

• Special Provision 47 specifies requirements for mixtures of non-hazardous solids and flammable liquids. In accordance with the UN Recommendations, Special Provision 47 is revised to specify that, in addition to sealed packets, articles containing less than 10 mL of a Class 3 Packing Group

II or III liquid absorbed into a solid material are excepted from the HMR provided there is no free liquid in the packet or article.

• Special Provision 77 applies to use of the Division 5.1 subsidiary risk label. We are revising this special provision for consistency with the wording in the UN Recommendations. As a result, Special Provision 77 will no longer apply only to ''domestic transportation.'' Further, we are clarifying that a Division 5.1 label is not required for mixtures containing not more than 23.5% oxygen by volume. Also, the provision is assigned to the entry ''Compressed gas, n.o.s.,'' UN1956, which is the most appropriate description for mixtures currently described as ''Carbon dioxide and oxygen mixtures, compressed.'' In this final rule, we are removing the entry for ''Carbon dioxide and oxygen mixtures, compressed.''

• Special Provision 146 is amended to authorize the domestic classification of a material as environmentally hazardous if it is designated as such by a foreign competent authority. The provision as currently worded only allows such classification for international shipments. Due to current differences in criteria for the classification of environmentally substances world-wide, we believe the amended provision will afford additional flexibility to industry and reduce shipping costs by allowing both domestic and international shipments to be treated identically. Although generally the HMR do not authorize materials not meeting the definition of a hazardous material to be transported as regulated materials, due to the low risk posed by these materials, and the fact that the HMR already authorize domestic movement in association with international air and vessel transport, we believe this change will not result in a significant impact other than to lower costs for our stakeholders.

• Special Provision 147 applies to non-sensitized emulsions, suspensions and gels consisting primarily of a mixture of ammonium nitrate and fuel, intended to produce a Type E blasting explosive only after further processing prior to use. In accordance with the UN Recommendations, this special provision is revised to specify the composition of mixtures for suspensions and gels and to specify these substances be tested in accordance with Test Series 8 of the UN Manual of Tests and Criteria.

• Special Provision 166 authorizes non-friable, tablet form calcium hypochlorite, dry or hydrated, to be transported as a Packing Group III material. In accordance with the UN Recommendations, we are revising Special Provision 166 to remove the authorization for ''hydrated'' non-friable tablet forms of calcium hypochlorite to be transported as a PG III material.

• A new Special Provision 175 is added to require stabilization for certain substances when transported in concentrations of not more than 99%.

• Special Provision 101 is removed. This special provision required the name of the particular substance or article to be specified. With the introduction of the letter ''G'' in Column (1), which requires the n.o.s. and generic proper shipping names to be supplemented with the technical name of the hazardous material, Special Provision 101 became obsolete.

• A new Special Provision A105 is added to specify the quantity of hazardous materials allowed in equipment or apparatus.

Section 172.202

Shipping Description Sequence

Section 172.202 establishes requirements for shipping descriptions on shipping papers. Currently, the basic description of a hazardous material consists of the proper shipping name, hazard class, ID number and packing group, in that order. The HMR also authorize an alternative description sequence, which lists the identification number first, followed by the proper shipping name, hazard class, and packing group. Beginning January 1, 2007, the alternative shipping description sequence will be mandatory on shipping documents prepared in accordance with the ICAO Technical Instructions and the IMDG Code. In the NPRM, we proposed to adopt the current, alternative shipping description sequence as the mandatory basic description of a hazardous material on a shipping paper. We also proposed a two-year transition period to allow offerors adequate time to convert to the new shipping description sequence.

A total of 19 commenters addressed this proposal. Eight commenters [NPCA, AP&C, ATA, GPS, LabCorp, NTTC, UPS, and VHOMA] support the proposal. NPCA notes that many of its members have already implemented this change to simplify internal shipping processes.

Eleven commenters [Adamo; AllChem; Botteri; Eisenhofer; ISSA, J&S; NACD; NATC; RST; and two unidentified commenters] oppose this proposal, suggesting that the change is not necessary, lacks an economic justification, and will have a negative impact on safety. These commenters note that, because the current regulations allow the international sequence as an alternative, the proposed change merely removes the existing sequence with no positive safety rationale. These commenters further assert that the proposed change could result in significant cost impacts to companies that utilize computer systems for the preparation of shipping documents and to track associated packaging and training requirements. According to these commenters, potential costs could include database reorganization, employee training, and related revisions to product labels that also include shipping information. Commenters suggest that costs could also result from confusion on the part of enforcement and inspection personnel that could lengthen inspections and delay shipments. These commenters are also concerned that the proposed revision could have a negative impact on safety because it could result in confusion for emergency response personnel, most of whom are volunteers and receive limited training. Commenters note that confusing emergency response information could expose emergency responders to unnecessary danger.

PHMSA does not believe this proposal is unnecessary or will adversely impact transportation safety. A uniform system for describing and identifying hazardous materials on shipping papers, as proposed in this NPRM, will increase safety by helping to eliminate potential indecision and confusion during emergency situations. For example, when incidents occur during transportation, it is crucial to promptly identify packages of hazardous materials present in a given shipment. Emergency responders at the scene of an incident would use a standard description of hazardous materials on shipping papers to quickly determine that they have accounted for all hazardous materials in both domestically- and internationally-bound packages. In addition, following the release of a hazardous material, it is vital for emergency responders to quickly identify the hazardous materials to facilitate their emergency response decision-making. A standardized shipping description for both domestic and international shipments will aid in this process and will lead to a potential reduction in the loss of life and property.

PHMSA analyzes potential cost impacts of proposed regulations on the regulated community. Our justification regarding this proposal in the Regulatory Evaluation is located under the Docket Management System (*http://dms.dot.gov*). In the Regulatory

Evaluation, we determined that this NPRM, including this specific proposal, should result in cost savings by easing the regulatory compliance burden for shippers and carriers engaged in international commerce, including trans-border shipments within North America. In addition, shippers and carriers will not need to revise shipping papers to address differing domestic and international requirements for shipping descriptions. We acknowledge the proposal to require one basic description of a hazardous material on a shipping paper will necessitate additional training and software revisions. However, to allow for the training of hazmat employees and to ease the minimal burden on entities affected by the adoption of the proposed amendments, we are authorizing an extended transition period. An extended transition period will allow businesses to incorporate this requirement into their training material for both new and current hazardous materials employees, and to upgrade system software over the course of normal computer upgrades and revisions with a minimal economic impact.

The NPRM proposed a two-year transition period to allow shippers sufficient time to convert to the new shipping description sequence. Three commenters [NTTC, ATA, and VOHMA] suggest the proposed transition period is unnecessary and recommend a one-year transition. These commenters state that the industry is able to alter current software systems and deplete pre-printed shipping paper inventory within a relatively short time period. VOHMA asserts lengthy transition periods create confusion and increased training burdens. Six commenters [ATA; GPS; LabCorp; NTTC; UPS; VOHMA] state that the proposed transition period is too short, recommending up to six years to permit shippers to convert to the new sequence. These commenters suggest a longer transition period would allow the new shipping sequence to be incorporated into responder training programs and the next revision of the Emergency Response Guidebook (ERG). The ERG lists hazardous materials in numerical order of ID number and in alphabetical order of material name.

We understand commenters' concerns regarding the length of the transition period for this proposal. However, it is our intention to specify a uniform method to describe a hazardous material on a shipping paper in order to promote the universal recognition of hazardous materials, while allowing sufficient time for affected parties to properly train personnel, reconfigure internal computer systems, and deplete existing stock. We do not believe a time period less than six years would allow businesses to adequately accomplish these objectives. Moreover, a six-year transition period would allow for the incorporation of this requirement into the initial and recurrent training cycle for hazardous materials employees and emergency responders.

Therefore, for the reasons described above, in this final rule, we are adopting the requirement that the shipping description of a hazardous material be indicated on a shipping paper in the following manner: Identification (ID) number listed first, followed by the proper shipping name, hazard class, and packing group. In addition, we are authorizing a six-year transition period to implement this requirement.

Quantity Limitations

The description of a hazardous material on a shipping paper must include the total quantity of hazardous material (by mass or volume) covered by the description (see § 172.202(a)(5)). The majority of quantity limitations set forth for transportation by aircraft, in Columns (9A) and (9B), are ''net'' quantities. Section 175.75 limits the quantity of hazardous materials, expressed in net mass, aboard an aircraft. To facilitate compliance with the aircraft operator's requirements, in the NPRM we proposed that, for transportation by aircraft, the total quantity per package be shown, expressed as net mass, except as otherwise specified. For example:

UN1263, Paint, 3, PG II, 5 fiberboard boxes x 5 L each

As proposed, different size packages containing different quantities of the same hazardous material must be clearly identified. For example:

UN1263, Paint, 3, PG II, 5 fiberboard boxes x 5 L, 6 fiberboard boxes x 10 L

As proposed, where the letter ''G'' follows the quantity in Column (9A) or (9B), the gross mass rather than the net quantity must be indicated.

A commenter [DGAC] opposes the proposal to require the quantity of a hazardous materials shipment by aircraft to be expressed as a net quantity per package. The commenter questions the safety benefit of adopting the requirement and states that the costs to industry associated with the change, such as computer software upgrades, may be substantial. The commenter did not provide data to support this argument. We disagree that there is no safety benefit in expressing the quantity of hazardous material in terms of ''net quantity'' for air shipments. Quantity limitations aboard aircraft, as prescribed in § 175.75, are specified in the HMR as net quantities; thus, an indication of the net quantity per package on shipping papers facilitates load planning and compliance. We do not believe the cost of indicating net quantity rather than total quantity, as previously required, is increased substantially. Therefore, in this final rule, we are adopting the amendment as proposed.

In the NPRM, we also proposed the following additional requirements:

—For empty uncleaned packaging, only the number and type of packaging must be shown;
—For chemical kits and first aid kits, the total net mass of hazardous materials must be shown. Where a kit contains solids and/or liquids, the net mass of liquids within the kit is to be calculated on a 1 to 1 basis, i.e., 1 liter equals 1 kilogram;
—For dangerous goods in machinery or apparatus, the individual total quantities of dangerous goods in solid, liquid or gaseous state, contained in the article must be shown;
—For dangerous goods transported in a salvage packaging, an estimate of the quantity of dangerous goods per package must be shown;
—For cylinders, the total quantity may be indicated by the number of cylinders, for example, ''10 cylinders;''
—For items where ''No Limit'' is shown in Column (9A) or (9B) of the HMT, the quantity shown should be the net mass or volume of the material, except for UN2800, UN2807, UN3072, UN3166 and UN3173, where the quantity should be the gross mass of the article.

On the proposal to identify the total quantity of each hazardous material in machinery or apparatus, a commenter [UPS] states that the ''precision implied in this proposal is unrealistic.'' UPS suggests that, absent a precise quantity, a shipper should be permitted to estimate the quantity of hazardous material. We agree and are amending paragraph (a)(6)(iii) accordingly.

Another commenter [Laude] requests we include net quantity provisions for Class 7 materials transported by aircraft. Similar provisions for transportation by other modes are contained in paragraph (a)(5). We agree with the commenter and are amending paragraph (a)(6) accordingly.

The same commenter points out that in proposed paragraph (a)(6)(vi) ID numbers UN2807 and UN3173 do not exist in the HMT; (ID number UN2807 is assigned to ''magnetized material'' in the ICAO Technical Instructions). We are removing UN2807 and UN3173 in this final rule.

Section 172.312

Section 172.312 addresses marking requirements for liquid hazardous materials in non-bulk packagings. Specifically, the packaging must be marked with orientation arrows to indicate how the package should be oriented during transportation; the arrows indicate which end of the package is ''up.'' Currently the HMR require orientation markings only on a non-bulk combination package with inner packagings that contain a liquid hazardous material, unless specifically excepted.

We proposed to amend paragraph (a) by requiring orientation markings on single packagings fitted with vents and on open cryogenic receptacles intended for the transport of refrigerated liquefied gases. We received one comment [AP&C] supporting the proposal and, in this final rule, are adopting the amendment as proposed.

Also, we proposed to require the size of the marking to be proportioned so that it is clearly visible in relation to the size of the package, and the color of the arrows to be either black or red on a suitable contrasting background. One commenter [AP&C] supports the proposal requiring the size of the marking to be proportionate with the size of the package. Several commenters [NATC; Botteri; Eisenhofer; Adamo; NACD; J&S; RST; AllChem; UC1; UC2] question the meaning of the phrase ''clearly visible'' and suggest we specify the size of the marking; either by requiring the marking to be at least equal to the size of the largest package marking or, at a minimum, requiring the marking to be ½ inch. We agree with commenters that the phrase ''clearly visible'' is vague; however, we disagree with specifying the size of the orientation marking. The HMR currently require non-bulk packages containing liquid hazardous materials to be ''legibly marked'' with the orientation marking. Specifying the size of the orientation marking would be inconsistent with the general marking requirements (proper shipping name and identification number) for non-bulk packagings which do not specify the size of the markings. In this final rule, we are removing the phrase ''clearly visible'' and requiring the orientation marking to be commensurate with the size of the package.

We also proposed adding a new paragraph (c)(7) to except Class 7 materials in Type A, IP–2, IP–3, Type B(U), or Type B(M) packages from the orientation marking requirement. We received no comments on this proposal and are adopting the amendment as proposed.

Sections 172.407 and 172.427

Section 172.407 establishes specifications for package labels. Section 172.427 establishes requirements for the ORGANIC PEROXIDE label. In accordance with the UN Recommendations, we proposed to revise the ORGANIC PEROXIDE label. The revised label would reflect the fact that organic peroxides are highly flammable and enable transport workers to readily distinguish peroxides from oxidizers. We also proposed to authorize labels meeting the specifications in effect on December 31, 2006, to continue to be displayed until January 1, 2011 (see § 171.14). This would eliminate the current requirement in § 172.402 for a package containing an organic peroxide to bear a FLAMMABLE LIQUID subsidiary label in addition to the ORGANIC PEROXIDE primary hazard class label.

We received no comments opposing the proposal to revise the ORGANIC PEROXIDE label; therefore, in this final rule we are adopting the revisions as proposed.

Section 172.552

Section 172.552 establishes specific requirements for the ORGANIC PEROXIDE placard. In accordance with the UN Recommendations, in paragraph (b), we proposed to revise the ORGANIC PEROXIDE placard. The revised placard would reflect the fact that organic peroxides are highly flammable and enable transport workers to readily distinguish peroxides from oxidizers. We proposed to authorize placards meeting the specifications in effect on December 31, 2006, to continue to be displayed until January 1, 2011 (see § 171.14).

We received one comment [ATA] supporting the revised placard design; however, ATA disagrees with the length of the proposed transition period. The ATA requests a seven-year transition period until January 1, 2014. The ATA states that trucking companies with large fleets use dual metal flip placards on each side of the trailer. According to the ATA, trailer fleets are generally refurbished every seven years. This would allow companies to replace the ORGANIC PEROXIDE placard at the time of refurbishment. Based on this comment, in this final rule, we are authorizing ORGANIC PEROXIDE placards meeting the specifications in effect on December 31, 2006, to continue to be displayed until January 1, 2014 for transportation by highway and until January 1, 2011 for transportation by rail, vessel or aircraft.

Part 173

Section 173.9

Section 173.9 sets forth requirements for transporting cargo that has been fumigated or is undergoing fumigation. Such shipments must have a FUMIGANT marking. As specified in this section, the FUMIGANT marking includes an indication of the material used for fumigation and the date and time the fumigant was applied. Currently, transport vehicles or freight containers containing fumigated cargoes are not required to show the date the fumigated transport vehicle or freight container was ventilated to remove harmful concentrations of fumigant gas. To minimize the possibility of an individual entering a fumigated transport vehicle or freight container prematurely, in the NPRM we proposed to require the FUMIGANT marking to include the date of ventilation. We also proposed to revise the specifications for the FUMIGANT marking to allow either red or black marking on a white background. No commenters opposed these proposals, therefore, we are adopting them without change in this final rule.

Sections 173.35, 173.120, 173.121, and Appendix H to Part 173

Section 173.35 sets forth requirements for transporting hazardous materials in intermediate bulk containers (IBCs); § 173.120 establishes classification criteria for flammable liquid (Class 3) materials; § 173.121 addresses packing group assignments for Class 3 materials; and Appendix H to Part 173 sets forth methods to test a material to determine its combustibility. In the NPRM, we proposed to revise all of these sections to reflect the new upper limit of 60 °C (140 °F) for a PG III flammable liquid. This is consistent with recent changes to the classification of flammable liquids based on the GHS and adoption into the UN Recommendations. PHMSA also proposed to authorize a five-year transition period.

A commenter [DGAC] appreciates the length of the proposed transition period. DGAC urges PHMSA to propose a similar transition period for the criteria in international regulations. Modifications to the international standards are outside the scope of this rulemaking. International shippers should be aware of this disparity and take appropriate action. In this final rule, we are adopting the amendment as proposed.

Section 173.115

The HMR define a Division 2.2 non-flammable gas as any material or mixture that ''exerts in the packaging an absolute pressure of 280 kPa (40.6 psia) or greater at 20 °C (68 °F), * * *.'' In paragraph (b)(1), we proposed to add the phrase ''or is a cryogenic liquid,'' to clarify that a cryogenic liquid, whether or not it meets the definition of a Division 2.2 non-flammable gas, is subject to the HMR. This is consistent with the current requirements for cryogenic liquids in § 173.115(g). We received no comments opposing this proposal; therefore, in this final rule, we are adopting the proposal without change.

Currently, paragraph (k)(5) of this section requires aerosols containing Class 8, PG III materials to be assigned a Class 8 subsidiary hazard. In the NPRM, we proposed to amend paragraph (k)(5) to specify that aerosols containing Class 8, PG II or PG III materials must be assigned a Class 8 subsidiary hazard. We received no comments opposing this proposal; therefore, in this final rule, we are adopting the proposal without change.

Section 173.124

Section 173.124 establishes classification criteria for Division 4.1 (flammable solid), Division 4.2 (spontaneously combustible), and Division 4.3 (dangerous when wet) materials. In the NPRM, we proposed to revise § 173.124 by adding a new paragraph (a)(2)(i)(D)(*3*) to require mixtures of oxidizing substances containing 5.0% or more combustible organic substances to be subject to the self-reactive substance classification procedure. This will ensure that oxidizing substances containing 5.0% or more of combustible organic substances are also tested for their ability to self-react and to ensure that in such instances, these substances are appropriately classed for their self-reactive hazard. We received no comments on this proposal; it is adopted without change in this final rule.

Section 173.133

Section 173.133 establishes criteria for assignment of packing groups to poisonous (Division 6.1) materials. We proposed to amend the toxicity criteria for consistency with the toxicity criteria adopted in the UN Recommendations on the basis of the limits established in the GHS. As a result, some materials that were not previously regulated under the HMR would now be regulated as Division 6.1, Packing Group III; some materials currently regulated as Division 6.1, Packing Group I or II are assigned to a different packing group; and some materials that were previously regulated as Division 6.1, Packing Group III would no longer be subject to regulation under the HMR. PHMSA also proposed a five-year transition period.

The effect of these proposed changes to packing group assignments for Division 6.1 materials is summarized as follows:

Material properties	Current PG assignment	New PG assignment
Oral LD_{50} > 200, ≤ 300 (Solid)	Not regulated	III
Oral LD_{50} > 300, ≤ 500 (Liquid)	III	Not regulated.
Dermal LD_{50} > 40, ≤ 50	II	I
Inhalation toxicity by dusts and mists LC_{50} > 0.2, ≤ 0.5	I	II
Inhalation toxicity by dusts and mists LC_{50} > 4, ≤ 10	III	Not regulated.

Thirteen commenters [NATC; Botteri; Eisenhofer; Adamo; J&S; RST; AP&C; AllChem; Arkema; UC1; UC2; NACD; DGAC] support adoption of this proposal. Arkema notes that the amended criteria may result in reclassification of certain materials that are listed by name in the HMT. The commenter requests that the HMR be amended to allow the use of currently listed names instead of describing the material under an appropriate generic (n.o.s.) name based on the new toxicity criteria. The commenter also states Arkema, an international company, will review its materials to ensure they are in compliance with the provisions of the 2008 IMDG Code, and will handle air shipments on a case-by-case basis. PHMSA does not intend to provide such an allowance in the HMR; we believe such a provision could be confusing and would be inconsistent with the international regulations. However, we invite submission of data supporting reclassification of certain materials resulting from the revised criteria for toxic materials. Such data could be used to effect change in the listing of a material within the HMR and the UN Model Regulations.

A commenter [DGAC] appreciates the length of the proposed transition period. DGAC urges PHMSA to propose a similar transition period for the criteria in international regulations. Changes to the international standards are outside the scope of this rulemaking. International shippers should be aware of this disparity and take appropriate action.

Finally, ten commenters [NATC; Botteri; Eisenhofer; Adamo; J&S; RST; AllChem; UC1; UC2; NACD] request a five-year transition period and a grandfather clause to allow packages filled prior to a specific date to remain marked without modification for domestic transportation. In the NPRM, we proposed a five-year transition period and in this final rule, we are adopting the amendment as proposed (see § 171.14). We disagree with the request to allow packages filled prior to a specific date to remain marked without modification for domestic transportation. We believe that a five-year transition provides adequate time to transition to the new classification criteria and to ensure that packages marked based on regulations in effect on December 31, 2006, are out of the transportation stream. Therefore, we are not adopting a grandfather clause.

Sections 173.134 and 173.197

Consistent with the proposals in the NPRM, in this final rule, these sections are revised by replacing the wording ''Regulated medical waste'' with the wording ''Regulated medical waste or clinical waste or (bio) medical waste.'' No commenters addressed this issue.

Section 173.136

Currently, the HMR define ''corrosive material'' to mean ''a liquid or solid that causes full thickness destruction of human skin at the site of contact within a specified period of time. A liquid that has a severe corrosion rate on steel or aluminum based on the criteria in § 173.137(c)(2) is also a corrosive material.'' Certain solids with a low melting point may become liquid during transportation, and others may be intentionally heated above their melting point and transported as a liquid in the molten state. We believe the Class 8 definition should apply equally to liquids and to solids offered for transportation or transported in a liquid state. In the NPRM, we proposed to revise the definition of a ''corrosive

material'' to include a solid material that is offered for transportation or transported as a liquid and has a severe corrosion rate on steel or aluminum. A commenter [Degussa] requests that we align the definition with the UN Recommendations. We agree and are modifying the definition of ''corrosive material'' to include the phrase ''solids that may become liquid during transportation.'' Also, we are removing the grandfather provision in § 173.136(d) on the basis that it is no longer necessary because tests other than the one specified in the UN Manual of Tests and Criteria will be authorized. See the § 173.137 preamble discussion below.

Section 173.137

Section 173.137 establishes packing group criteria for corrosive (Class 8) materials. In a final rule published December 20, 2004 under Docket HM–215G (69 *FR* 76155), we revised the language in paragraph (c)(2) mandating the corrosion test in the UN Manual of Tests and Criteria as the only acceptable test method for determining the corrosivity of a material. That was not our intent. In the NPRM, we proposed to revise paragraph (c)(2) to specify that corrosivity may be determined in accordance with methods described in the UN Manual of Tests and Criteria, as well as other equivalent methods, such as those described in ASTM G 31–72. No commenters addressed this proposal; it is adopted without change in this final rule.

Section 173.159

Section 173.159 establishes transportation requirements for wet electric storage batteries. For consistency with the ICAO Technical Instructions, in the NPRM we proposed to revise paragraphs (a), (c)(1), (c)(2), (c)(4), (c)(5), (d)(1) and (e)(2) to clarify that batteries may be protected against short circuits by the use of non-conductive caps that cover the entire terminal(s). No commenters addressed this proposal; therefore, we are adopting it without change in this final rule.

Section 173.166

Section 173.166 establishes transportation requirements for air bag inflators, air bag modules, and seat-belt pretensioners. Currently, paragraph (d)(1) excepts from the HMR air bag modules and seat-belt pretensioners approved by the Associate Administrator and installed in a motor vehicle or a completed motor vehicle component. In the NPRM, we proposed to revise paragraph (d)(1) to expand the exception to include air bag modules and seat-belt pretensioners installed in other means of conveyances, such as boats and aircraft, or their components. We received no comments on this proposal; therefore, we are adopting it without change in this final rule.

Section 173.187

Section 173.187 establishes transportation requirements for pyrophoric solids, metals, or alloys, not otherwise specified (n.o.s.). In the NPRM, we proposed to revise this section for clarity and to correct an oversight by adding 4A steel boxes to the list of authorized packagings for pyrophoric solids, metals or alloys, n.o.s. We received no comments on this proposal; it is adopted without change in this final rule.

Section 173.216

Section 173.216 establishes transportation requirements for blue, brown, or white asbestos. Paragraph (c) of this section specifies packaging requirements for these materials. In the NPRM, we proposed to require bags or other non-rigid packages containing asbestos to be transported in rigid outer packages or closed freight containers. No commenters addressed this proposal; therefore, it is adopted without change in this final rule.

Section 173.220

Section 173.220 establishes transportation requirements for internal combustion engines, self-propelled vehicles, mechanical equipment containing internal combustion engines, and battery powered vehicles and equipment. For transportation by aircraft, the HMR impose a pressure limit of not more than 5% of the maximum allowable working pressure in any part of the system between the pressure receptacle and the shut off valve of a flammable gas powered vehicle. In the NPRM, we proposed to revise paragraph (b)(2)(ii)(B)(*3*) to specify that the pressure limit imposed applies to the entire closed system and that the maximum pressure allowed is 290 psig (2000 kPa). Also, consistent with the ICAO Technical Instructions, we proposed to revise paragraphs (c) and (d) to clarify that batteries may be protected against short circuits by the use of non-conductive caps that cover the entire terminal(s). We received no comments on these proposals; therefore, we are adopting them without change in this final rule.

Section 173.222

This section establishes requirements for hazardous materials in equipment, machinery and apparatus. Because of the addition of Special Provision A105 in the HMT, the shipping paper requirements in paragraph (d) no longer apply to transportation by aircraft. In the NPRM, we proposed to revise paragraph (d) accordingly. No commenters addressed this proposal, and it is adopted without change in this final rule.

A commenter [Laude] requests we remove the phrase ''equipment'' in this section. The phrase ''equipment'' is not part of the proper shipping name ''Dangerous Goods in Machinery *or* Dangerous Goods in Apparatus'' in the HMT. Therefore, we are editorially revising § 173.222 to remove the phrase ''equipment'' in the heading and regulatory text.

Section 173.224

Section 173.224 establishes packaging and control and emergency temperatures for self-reactive materials. The Self-Reactive Materials Table in paragraph (b)(7) of this section specifies self-reactive materials authorized for transportation without first being approved for transportation by the Associate Administrator for Hazardous Materials Safety and requirements for transporting these materials. In the NPRM, we proposed to add a new entry to ''Acetone-pyrogallol copolymer 2-diazo-1-naphthol-5-sulphonate'' to the Self-Reactive Materials Table. We received no comments on this proposal, and are adopting it without change in this final rule.

Section 173.230

In the NPRM, we proposed to add a new packaging section (§ 173.230) for the transportation of ''Fuel cell cartridges *containing flammable liquids*, UN3473,'' including methanol or methanol/water solutions. For consistency with the ICAO Technical Instructions, we proposed to require fuel cell cartridges containing flammable liquids, other than those packaged with equipment, to be packaged in specification packagings for all modes of transportation. Fuel cell cartridges packaged in or with equipment must be packaged in strong outer packagings.

A commenter [HMT] suggests we add a special provision to the entry ''Fuel cell cartridges containing flammable liquids'' in the HMT that would allow fuel cell cartridges to be considered the inner packaging of a combination packaging so that shippers can take advantage of the limited quantity provisions for flammable liquids in § 173.150. We do not believe that such a clarification is necessary. A fuel cell cartridge, shipped under the provisions

of § 173.150 as a limited quantity, may be considered the inner packaging provided all applicable requirements are met. The commenter also suggests we change the one liter net capacity limit to allow up to one liter volume of the flammable liquid itself. We do not agree. The net capacity of a fuel cell cartridge should be the capacity of the fuel cell cartridge containing the flammable liquid. This is consistent with the requirements for other flammable liquids shipped as a limited quantity in inner packagings or articles. Finally, the commenter recommends we authorize any rigid outer packaging conforming to the PG II performance level. We agree and are amending the requirements in paragraph (a)(2) accordingly.

Section 173.301

On August 29, 2006, the **Federal Register** published a final rule under Docket HM–220F (71 *FR* 51122)) establishing additional requalification requirements for cylinders manufactured of aluminum alloy 6351–T6. In § 173.301, we moved a sentence prohibiting the use of DOT 3AL cylinders manufactured of aluminum alloy 6351–T6 for transporting pyrophoric gases from paragraph (d) to a new paragraph (o). We revised the remaining requirement in paragraph (d). However, we inadvertently omitted a sentence prohibiting the use of aluminum alloy 6351–T6 for the manufacture of UN cylinders recently added in paragraph (d) under a final rule published June 12, 2006 under Docket HM–220E (71 *FR* 33858). In this final rule, we are correcting § 173.301(o) by reinserting the language prohibiting the use of UN cylinders manufactured of aluminum alloy 6351–T6.

Section 173.306

This section establishes transportation requirements for limited quantities of compressed gases. Paragraph (i) of this section excepts aerosols with capacities under 50 mL (1.7 oz) and pressures not exceeding 970 kPa (141 psig) at 55 °C (131 °F) from all HMR requirements. In the NPRM, we proposed to expand this exception to aerosols with capacities of less than 50 mL (1.7 oz) and pressures of up to 290 psig (2000 kPa) provided the packagings conform to the general packaging requirements of Subpart B of Part 173. The proposed amendment is not consistent with provisions of the UN Recommendations or the ICAO Technical Instructions, which do not limit the pressure within the aerosol or small receptacle. We are not convinced that aerosols should be excepted from all regulation when the pressure in the container exceeds 290 psig (2000 kPa). Because the exceptions in the UN Recommendations and ICAO Technical Instructions include an exception from shipping paper, package marking, and labeling requirements, a carrier might not be aware of the potential risks associated with higher pressure aerosols and small gas receptacles. In addition, to avoid confusion and further clarify the intent of this exception, in the NPRM we proposed to revise paragraph (i) to specify that the 50 mL exception for aerosols does not apply to self-defense sprays. It was not our intent to authorize the use of this exception for self-defense sprays. We received no comments on this proposal; it is adopted in this final rule.

Part 175

Section 175.10

Currently, safety matches or lighters carried on board an aircraft and intended for use by a passenger or crew member are excepted from the HMR. Consistent with the ICAO Technical Instructions, in the NPRM we proposed to revise paragraph (a)(2) to limit the number of safety matches that may be carried on one's person or in carry-on baggage by a passenger or crewmember to one packet. We received no comments on this issue; therefore, it is adopted without change in this final rule.

Section 175.78

Section 175.78 establishes requirements for stowing hazardous materials on an airplane. In the NPRM, we proposed to paragraph (c)(4) to clarify which explosive materials may be stowed together aboard an aircraft and to remove existing stowage references for explosive materials not authorized for transportation aboard aircraft under any circumstances. We received no comments on this issue; therefore, it is adopted without change in this final rule.

Part 176

Section 176.76

Section 176.76 establishes requirements for vessel transportation of transport vehicles, freight containers, and portable tanks containing hazardous materials. Paragraph (f) includes requirements for portable tanks containing flammable liquids or gases. Consistent with recent changes to the classification of flammable liquids based on the GHS and adopted into the UN Recommendations and discussed elsewhere in this preamble, in the NPRM we proposed to revise paragraph (f)(2) to specify the new upper limit for a PG III flammable liquid to be 60 °C (140 °F). We received no comments on this issue; therefore, it is adopted without change in this final rule.

Section 176.83

Section 176.83 establishes segregation requirements for hazardous materials transported by vessel. In the NPRM, we proposed to revise paragraph (a)(4) to identify materials of different hazard classes that do not react dangerously with each other and, therefore, do not need to be segregated. No commenters addressed this proposal; it is adopted without change in this final rule.

Section 176.84

Section 176.84 contains additional stowage and segregation requirements for hazardous materials on cargo and passenger vessels. Consistent with the 2004 Edition of the IMDG Code, incorporating Amendment 33–06, in the paragraph (b) Table of provisions, in the NPRM we proposed to add new Code ''144'' to the entries ''Plastic molding compound *in dough, sheet or extruded rope from evolving flammable vapor*,'' UN3314, and ''Polymeric beads expandable, *evolving flammable vapor*,'' UN2211. New Code ''144'' specifies these materials must be mechanically ventilated in accordance with SOLAS Chapter II–2/Regulation 19 for flammable liquids with a flashpoint below 23 °C (73 °F) when stowed under deck. No comments addressed this issue; it is adopted without change in this final rule.

Also, in the NPRM, we proposed to add a new note ''2'' following the Table. Note ''2'' provides an exception from the segregation requirements for Class 8, PG II and III materials, provided the substances do not react dangerously with one another and the quantities per package do not exceed 30 L (7.8 gallons) for liquids and 30 kg (66 lbs.) for solids. We also proposed to revise Codes ''26,'' ''27,'' ''52,'' and ''53'' to add the new Note ''2.''

One commenter [VOHMA] supports the proposal to add a new Note ''2,'' but suggests the following provision be added: ''The transport document must include the statement required by § 172.203(i)(5) and a copy of the test report that verifies that the substances do not react dangerously with each other shall be provided if requested by the competent authority.'' The commenter also recommends an additional shipping paper requirement under § 172.203 to indicate the utilization of this provision. The commenter bases its request on a need for consistency with the IMDG Code, and the need for verification to the carrier that the substances have been

tested and do not react dangerously with each other.

We acknowledge the commenter's recommendation that new Note ''2'' may require an accompanying statement on a transport document, such as a shipping paper, in order to adequately notify carriers of the use of this provision. We also acknowledge the commenter's suggestion that supporting documentation, such as a test report, should accompany shipments of these hazardous materials. Because these additional requirements were not proposed in the NPRM, they are beyond the scope of this rulemaking. However, we agree that carriers may need some notification of the use of this provision and will consider the issue in a future rulemaking.

In this final rule, we are adopting the proposal to add new Note ''2'' to the Segregation Table, and to revise Codes ''26,'' ''27,'' ''52,'' and ''53'' by adding the new Note ''2,'' as proposed in the NPRM. In addition, we are also adopting the proposal to add Code ''144'' to the entries ''Plastic molding compound *in dough, sheet or extruded rope from evolving flammable vapor*,'' UN3314, and ''Polymeric beads expandable, *evolving flammable vapor*,'' UN2211, to specify these materials must be mechanically ventilated in accordance with SOLAS regulation II–2/19 (IBR; see § 171.7 of this subchapter) for flammable liquids with a flashpoint below 23 °C (73 ° F) when stowed under deck. Finally, in paragraph (b), we are revising Provisions ''22,'' ''23,'' and ''109'' to reflect the new upper flammability limit for flammable liquids. Also see §§ 173.35, 173.120, 173.121 and Appendix H to Part 173 preamble text.

Part 178

Section 178.274

Section 178.274 establishes design, manufacturing, and test requirements for UN portable tanks. Currently, a prototype UN portable tank must be shown to be capable of absorbing the forces resulting from an impact not less than four times the maximum permissible gross weight of the fully loaded portable tank at a duration that is typical of the mechanical shocks experienced in rail transportation. Several standards describing methods acceptable for performing the impact test were previously listed in the UN Recommendations (6.7.3.15). The Fourth revised edition of the UN Manual of Tests and Criteria includes a dynamic longitudinal impact test for portable tanks. All procedures, test requirements, processing and analysis of data are found in Section 41 of Addendum 2 to the UN Manual of Tests and Criteria.

Consistent with the UN Recommendations, in the NPRM we proposed to revise paragraph (j)(6) to require each UN portable tank design type be subjected to a dynamic longitudinal impact test to prove the ability of the portable tank to withstand the effects of a longitudinal impact. The NPRM proposed an effective for the new requirement of January 1, 2008, and further proposed that UN portable tanks impact-tested prior to January 1, 2008, based on the criteria in effect on October 1, 2005, need not be retested. We received no comments on this proposal; we are adopting it without change in this final rule.

Section 178.602

Section 178.602 establishes requirements for the preparation of packagings for testing to ensure that the packaging conforms to the design requirements of the applicable specification. Currently, for the preparation of bags for the drop and stacking tests, paragraph (b) requires bags to be filled to the maximum mass at which they may be used. In the NPRM, we proposed to revise paragraph (b) to clarify that the preparation of bags for the drop and stacking tests only applies to bags containing solids. No commenters addressed this proposal; it is adopted without change in this final rule.

Section 178.810

Section 178.810 establishes requirements for performing the drop test for IBCs. In the NPRM, we proposed to revise paragraph (b)(1) to clarify that metal, rigid plastic, and composite IBCs must be filled to not less than 95% of their maximum capacity when conducting drop tests for solids, and not less than 98% of their maximum capacity for liquids. Similarly, in paragraph (b)(2), we proposed to require fiberboard and wooden IBCs to be filled with a solid material to not less than 95% of their maximum capacity. Also, we proposed to add a new paragraph (b)(3) to require filling flexible IBCs to the maximum permissible gross mass and even distribution of the contents. No commenters addressed these proposals; they are adopted without change in this final rule.

Part 180

Section 180.213

On August 29, 2006 the **Federal Register** published a final rule under Docket HM–220F (71 *FR* 51122) establishing additional requalification requirements for cylinders manufactured of aluminum alloy 6351–T6. In the amendatory language, we inadvertently revised paragraph (d) rather than the paragraph (d) introductory text. In this final rule, we are revising paragraph (d) to correct this error.

Section 180.352

Section 180.352 establishes requirements for retesting and inspection of IBCs to ensure that they continue to conform to the applicable specification. In the NPRM, we proposed to revise paragraph (b) to specify that each IBC intended to contain solids that are loaded or discharged under pressure or intended to contain liquids must be tested in accordance with the leakproofness test prescribed in § 178.813 prior to its first use in transportation. For this test, the IBC is not required to have its closures fitted. These proposals incorporate clarifications adopted in the Fourteenth revised edition of the UN Recommendations. We received no comments on these proposals and are adopting them without change in this final rule.

IV. Regulatory Analyses and Notices

A. Statutory/Legal Authority for This Rulemaking

This final rule is published under the following statutory authorities:

1. 49 U.S.C. 5103(b) authorizes the Secretary of Transportation to prescribe regulations for the safe transportation, including security, of hazardous material in intrastate, interstate, and foreign commerce. This final rule amends regulations to maintain alignment with international standards by incorporating various amendments, including changes to proper shipping names, hazard classes, packing groups, special provisions, packaging authorizations, air transport quantity limitations and vessel stowage requirements. To this end, as discussed in detail earlier in this preamble, the final rule amends the HMR to more fully align them with the biennial updates of the UN Recommendations, the IMDG Code and the ICAO Technical Instructions; this will facilitate the transport of hazardous materials in international commerce.

Harmonization serves to facilitate international transportation; at the same time, harmonization ensures the safety of people, property, and the environment by reducing the potential for confusion and misunderstanding that could result if shippers and

transporters were required to comply with two or more conflicting sets of regulatory requirements. While the intent of this rulemaking is to align the HMR with international standards, we review and consider each amendment on its own merit based on its overall impact on transportation safety and the economic implications associated with its adoption into the HMR. Our goal is to harmonize without sacrificing the current HMR level of safety and without imposing undue burdens on the regulated public. Thus, as discussed in detail earlier in this preamble, there are several instances where we elected not to adopt a specific provision of the UN Recommendations, the IMDG Code or the ICAO Technical Instructions. Moreover, we are maintaining a number of current exceptions for domestic transportation that should minimize the compliance burden on the regulated community.

2. 49 U.S.C. 5120(b) authorizes the Secretary of Transportation to ensure that, to the extent practicable, regulations governing the transportation of hazardous materials in commerce are consistent with standards adopted by international authorities. This final rule amends the HMR to maintain alignment with international standards by incorporating various amendments to facilitate the transport of hazardous material in international commerce. To this end, as discussed in detail earlier in this preamble, the rule incorporates changes into the HMR based on the Fourteenth revised edition of the UN Recommendations, Amendment 33 to the IMDG Code, and the 2007–2008 ICAO Technical Instructions, which become effective January 1, 2007. The continually increasing amount of hazardous materials transported in international commerce warrants the harmonization of domestic and international requirements to the greatest extent possible.

B. Executive Order 12866 and DOT Regulatory Policies and Procedures

This final rule is not considered a significant regulatory action under section 3(f) of Executive Order 12866 and, therefore, was not reviewed by the Office of Management and Budget. The final rule is not considered a significant rule under the Regulatory Policies and Procedures of the Department of Transportation [44 FR 11034]. This final rule applies to offerors and carriers of hazardous materials, such as chemical manufacturers, chemical users and suppliers, packaging manufacturers, distributors, battery manufacturers, and radiopharmaceutical companies. Benefits resulting from the amendments in this final rule include enhanced transportation safety resulting from the consistency of domestic and international hazard communications and continued access to foreign markets by U.S. manufacturers of hazardous materials.

The majority of amendments in this final rule result in cost savings and ease the regulatory compliance burden for shippers engaged in domestic and international commerce, including trans-border shipments within North America.

We are authorizing a delayed effective date and a one-year transition period for the majority of amendments in this final rule; we are authorizing extended transition periods for certain amendments. The transition periods allow for training of employees and ease any burden on entities affected by the amendments. The total net increase in costs to businesses in implementing the final rule is considered to be minimal. The costs are the result of reprogramming shipping paper computer programs, replacement of pre-printed forms for firms that do not use automated systems, and changes to package markings and labels. Initial start-up and inventory costs result from these changes; however, the costs will be offset by greater long-term savings of conformance with one set of regulations and a one-year transition period. A regulatory evaluation is available for review in the public docket for this rulemaking.

C. Executive Order 13132

This final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13132 (''Federalism''). This final rule preempts State, local and Indian tribe requirements but does not impose any regulation that has substantial direct effects on the States, the relationship between the national government and the States, or the distribution of power and responsibilities among the various levels of government. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

The Federal hazardous material transportation law, 49 U.S.C. 5101–5128, contains an express preemption provision (49 U.S.C. 5125(b)) that preempts State, local, and Indian tribe requirements on certain covered subjects. Covered subjects are:

(1) The designation, description, and classification of hazardous material;

(2) The packing, repacking, handling, labeling, marking, and placarding of hazardous material;

(3) The preparation, execution, and use of shipping documents related to hazardous material and requirements related to the number, contents, and placement of those documents;

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

(5) The design, manufacture, fabrication, inspection, marking, maintenance, recondition, repair, or testing of a packaging or container represented, marked, certified, or sold as qualified for use in transporting hazardous material in commerce.

This final rule addresses covered subject items (1), (2), (3), and (5) above and preempts State, local, and Indian tribe requirements not meeting the ''substantively the same'' standard. This final rule is necessary to incorporate changes adopted in international standards, effective January 1, 2007. If the changes in this final rule are not adopted in the HMR, U.S. companies, including numerous small entities competing in foreign markets, would be at an economic disadvantage. These companies would be forced to comply with a dual system of regulations. The changes in this rulemaking are intended to avoid this result. Federal hazardous materials transportation law provides at section 5125(b)(2) that, if DOT issues a regulation concerning any of the covered subjects, DOT must determine and publish in the **Federal Register** the effective date of Federal preemption. The 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. The effective date of Federal preemption is March 29, 2007.

D. Executive Order 13175

This final rule was analyzed in accordance with the principles and criteria contained in Executive Order 13175 (''Consultation and Coordination with Indian Tribal Governments''). Because this final rule does not have tribal implications and does not impose substantial direct compliance costs, the funding and consultation requirements of Executive Order 13175 do not apply.

E. Regulatory Flexibility Act, Executive Order 13272, and DOT Procedures and Policies

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires an agency to review regulations to assess their impact on small entities, unless the agency determines that a rule is not expected to have a significant impact on a substantial number of small entities. This final rule facilitates the transportation of hazardous materials in international commerce by providing

consistency with international standards. This final rule applies to offerors and carriers of hazardous materials, some of whom are small entities, such as chemical users and suppliers, packaging manufacturers, distributors, and battery manufacturers. As discussed above, under *Executive Order 12866*, the majority of amendments in this final rule result in cost savings and ease the regulatory compliance burden for shippers engaged in domestic and international commerce, including trans-border shipments within North America.

Many companies will realize economic benefits as a result of these amendments. Additionally, the changes effected by this final rule will relieve U.S. companies, including small entities competing in foreign markets, from the burden of complying with a dual system of regulations. Therefore, I certify that the requirements in this final rule will not have a significant economic impact on a substantial number of small entities.

This final rule has been developed in accordance with Executive Order 13272 (''Proper Consideration of Small Entities in Agency Rulemaking'') and DOT's procedures and policies to promote compliance with the Regulatory Flexibility Act to ensure that potential impacts of draft rules on small entities are properly considered.

F. Paperwork Reduction Act

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid Office of Management and Budget (OMB) control number. Section 1320.8(d), Title 5, Code of Federal Regulations requires that PHMSA provide interested members of the public and affected agencies an opportunity to comment on information collection and recordkeeping requests. PHMSA currently has two approved information collections affecting this final rule: OMB Control Number 2137–0557, ''Approvals for Hazardous Materials'' with 25,605 burden hours and $562,837.40 burden costs; and OMB Control Number 2137–0613, ''Subsidiary Hazard Class & Number/Type of Packagings'' with 63,309 burden hours and $216,705 burden costs.

There are minor editorial changes under this rule. However, there is no net increase in burden for OMB Control Number 2137–0557 or OMB Control Number 2137–0613. We estimate the total information collection and recordkeeping burden as follows:

''Approvals for Hazardous Materials'' OMB Number 2137–0557:

Total Annual Number of Respondents: 3,523.
Total Annual Responses: 3,874.8.
Total Annual Burden Hours: 25,605.
Total Annual Burden Cost: $562,837.40.

''Subsidiary Hazard Class & Number/Type of Packagings'' OMB Number 2137–0613:

Total Annual Number of Respondents: 250,000.
Total Annual Responses: 6,337,500.
Total Annual Burden Hours: 17,604.
Total Annual Burden Cost: $216,705.
Total First Year Burden Hours: 45,705.
Total First Year Burden Cost: $1,115,992.

Requests for a copy of this information collection should be directed to Deborah Boothe or T. Glenn Foster, Office of Hazardous Materials Standards (PHH–10), Pipeline and Hazardous Materials Safety Administration, Room 8422, 400 Seventh Street, SW., Washington, DC 20590–0001, telephone (202) 366–8553.

G. Regulation Identifier Number (RIN)

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

H. Unfunded Mandates Reform Act

This final rule does not impose unfunded mandates under the Unfunded Mandates Reform Act of 1995. It does not result in costs of $120.7 million or more to either State, local or tribal governments, in the aggregate, or to the private sector, and is the least burdensome alternative that achieves the objective of the rule.

I. Environmental Assessment

The National Environmental Policy Act of 1969 (NEPA) requires Federal agencies to consider the consequences of major Federal actions and prepare a detailed statement on actions significantly affecting the quality of the human environment. We developed an assessment to determine the effects of these revisions on the environment and whether a more comprehensive environmental impact statement may be required. Consistency in the regulations for the transportation of hazardous materials aids in shipper understanding of the requirements and permits shippers to more easily comply with safety regulations and avoid the potential for environmental damage or contamination. Our findings conclude that there are no significant environmental impacts associated with this final rule. For interested parties, an Environmental Assessment is available in the public docket.

J. Privacy Act

Anyone is able to search the electronic form of any written communications and comments received into any of our dockets by the name of the individual submitting the document (or signing the document, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (Volume 65, Number 70; Pages 19477–78) or you may visit *http://dms.dot.gov.*

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

Education, Hazardous materials transportation, Hazardous waste, Incorporation by reference, Labeling, Markings, Packaging and containers, Reporting and recordkeeping requirements.

49 CFR Part 173

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

49 CFR Part 175

Air carriers, Hazardous materials transportation, Incorporation by reference, Radioactive materials, Reporting and recordkeeping requirements.

49 CFR Part 176

Hazardous materials transportation, Incorporation by reference, Maritime carriers, Radioactive materials, Reporting and recordkeeping requirements.

49 CFR Part 178

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

49 CFR Part 180

Hazardous materials transportation, Motor carriers, Motor vehicle safety, Packaging and containers, 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 U.S.C. 5101–5128, 44701; 49 CFR 1.45 and 1.53; Pub. L. 101–410 section 4 (28 U.S.C. 2461 note); Pub. L. 104–134 section 31001.

■ 2. In § 171.7, in the paragraph (a)(3) table, the following changes are made:

■ a. Under the entry ''International Civil Aviation Organization (ICAO),'' the entry ''Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Technical Instructions), 2005–2006 Edition'' is revised;

■ b. Under the entry ''International Maritime Organization (IMO),'' the entries ''International Convention for the Safety of Life at Sea, (SOLAS) Amendments 2000, Chapter II–2/Regulation 19, 2001'' and ''International Maritime Dangerous Goods Code (IMDG Code), 2004 Edition, Incorporating Amendment 32–04 (English Edition), Volumes 1 and 2'' are revised;

■ c. Under the entry ''United Nations,'' the entry ''UN Recommendations on the Transport of Dangerous Goods, Thirteenth Revised Edition (2003), Volumes I and II'' is revised;

■ d. Under the entry ''United Nations,'' the entry ''UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Fourth Revised Edition, (2003)'' is revised.

The revisions read as follows:

§ 171.7 Reference material.

(a) * * *

(3) *Table of material incorporated by reference.* * * *

Source and name of material	49 CFR reference
* * * *	* * *
International Civil Aviation Organization (ICAO),	
* * * *	* * *
Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Technical Instructions), 2007–2008 Edition.	171.8; 171.11; 172.202; 172.401; 172.512; 172.602; 173.320; 175.33; 178.3.
International Maritime Organization (IMO),	
* * * *	* * *
International Convention for the Safety of Life at Sea, (SOLAS) Amendments 2000, Chapter II–2/Regulation 19, 2001.	176.63; 176.84.
International Maritime Dangerous Goods Code (IMDG Code), 2006 Edition, Incorporating Amendment 33–06 (English Edition), Volumes 1 and 2.	171.12; 172.202; 172.401; 172.502; 172.602; 173.21; 176.2; 176.5; 176.11; 176.27; 176.30; 178.3; 178.274.
* * * *	* * *
United Nations,	
* * * *	* * *
UN Recommendations on the Transport of Dangerous Goods, Fourteenth revised edition (2005), Volumes I and II.	171.8; 171.12; 172.202; 172.401; 172.502; 173.22; 173.24; 173.24b; 173.40; 173.192; 173.197; 173.302b; 173.304b; 178.75; 178.274; 178.801.
UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Fourth revised edition, (2003), and Addendum 2, (2004).	172.102; 173.21; 173.56; 173.57; 173.58; 173.115; 173.124; 173.125; 173.127; 173.128; 173.137; 173.185; Part 173, appendix H; 178.274.
* * * *	* * *

* * * * *

■ 3. In § 171.14, paragraph (b) is removed and reserved; paragraphs (d) introductory text, (d)(1) and (d)(2) are revised; paragraphs (d)(7) and (d)(8) are removed; paragraphs (e) and (f) are revised; and new paragraph (g) is added to read as follows:

§ 171.14 Transitional provisions for implementing certain requirements.

* * * * *

(b) [Reserved]

* * * * *

(d) A final rule published in the **Federal Register** on December 29, 2006, effective January 1, 2007, resulted in revisions to this subchapter. During the transition period, until January 1, 2008, as provided in paragraph (d)(1) of this section, a person may elect to comply with either the applicable requirements of this subchapter in effect on December 31, 2006, or the requirements published in the December 29, 2006 final rule.

(1) *Transition dates.* The effective date of the final rule published on December 29, 2006 is January 1, 2007. A delayed compliance date of January 1, 2008, is authorized. Unless otherwise specified, on and after January 1, 2008, all applicable regulatory requirements adopted in the final rule in effect on January 1, 2007, must be met.

(2) *Intermixing old and new requirements.* Marking, labeling, placarding, and shipping paper descriptions must conform to either the old requirements of this subchapter in effect on December 31, 2006, or the new requirements of this subchapter in the final rule without intermixing communication elements, except that intermixing is permitted during the applicable transition period for packaging, hazard communication and handling provisions, as follows:

(i) If either shipping names or identification numbers are identical, a shipping paper may display the old shipping description even if the package is marked and labeled under the new shipping description;

(ii) If either shipping names or identification numbers are identical, a shipping paper may display the new shipping description; and

(iii) Either old or new placards may be used regardless of whether old or new

shipping descriptions, labels, and package markings are used.

* * * * *

(e) The shipping description sequences in effect on December 31, 2006, may be used until January 1, 2013.

(f) Except for transportation by highway, a Division 5.2 label and a Division 5.2 placard conforming to the specifications in §§ 172.427 and 172.552, respectively, of this subchapter in effect on December 31, 2006, may be used until January 1, 2011. For transportation by highway, a Division 5.2 placard conforming to the specifications in § 172.552 of this subchapter in effect on December 31, 2006 may be used until January 1, 2014.

(g) The Class 3 and Division 6.1 classification criteria and packing group assignments in effect on December 31, 2006, may be used until January 1, 2012.

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 U.S.C. 5101–5128; 44701; 49 CFR 1.53.

■ 5. In § 172.101, paragraph (d)(4) is revised and the Hazardous Materials Table is amended by removing, adding and revising, in the appropriate alphabetical sequence, to read as follows:

§ 172.101 Purpose and use of hazardous materials table.

* * * * *

(d) * * *

(4) Each reference to a Class 3 material is modified to read ''Combustible liquid'' when that material is reclassified in accordance with § 173.150(e) or (f) of this subchapter or has a flash point above 60 °C (140 °F) but below 93 °C (200 °F).

* * * * *

§ 172.101 HAZARDOUS MATERIALS TABLE

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification numbers	PG	Label codes	Special provisions (§ 172.102)	(8) Packaging (§ 173.***) Exceptions	Non-bulk	Bulk	(9) Quantity limitations Passenger aircraft/rail	Cargo aircraft only	(10) Vessel stowage Location	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
		*		*	*	*	*		*	*			
	Carbon dioxide and nitrous oxide mixtures.	2.2	UN1015		2.2		306	None	314, 315	75 kg	150 kg	A	
		*		*	*	*	*		*	*			
	Carbon dioxide and oxygen mixtures, compressed.	2.2	UN1014		2.2, 5.1	77, A14	306	304	314, 315	75 kg	150 kg	A	
		*		*	*	*	*		*	*			
	Carbon monoxide and hydrogen mixture, compressed.	2.3	UN2600		2.3, 2.1	6	None	302	302	Forbidden	Forbidden	D	40
		*		*	*	*	*		*	*			
	Crotonaldehyde, stabilized.	6.1	UN1143	I	6.1, 3	2, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45.	None	227	244	Forbidden	Forbidden	B	40.
	Crotonic acid, *liquid*	8	UN2823	III	8	IB8, T1	154	203	241	5 L	60 L	A	12.
	Crotonic acid, *solid*	8	UN2823	III	8	IB8, IP3, T1, TP33.	154	213	240	25 kg	100 kg	A	12.
		*		*	*	*	*		*	*			
	Formic acid	8	UN1779	II	-8	B2, B28, IB2, T7, TP2.	154	202	242	1 L	30 L	A	40
		*		*	*	*	*		*	*			
	Hydrogen difluorides, n.o.s.	8	UN1740	II	8	IB8, IP2, IP4, N3, N34, T3, TP33.	None	212	240	15 kg	50 kg	A	25, 40, 52.
		*		*	*	*	*		*	*			
				III	8	IB8, IP3, N3, N34, T1, TP33.	154	213	240	25 kg	100 kg	A	25, 40, 52.
		*		*	*	*	*		*	*			
	Hydroquinone, solid.	6.1	UN2662	III	6.1	IB8, IP3, T1, TP33.	153	213	240	100 kg	200 kg	A	
	Hydroquinone solution.	6.1	UN3435	III	6.1	IB3, T4, TP1	153	203	241	60 L	220 L	A	
		*		*	*	*	*		*	*			
	Propionic acid	8	UN1848	III	8	IB3, T4, TP1	154	203	241	5 L	60 L	A	
		*		*	*	*	*		*	*			
	Rare gases and nitrogen mixtures, compressed.	2.2	UN1981		2.2		306	302	None	75 kg	150 kg	A	

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification numbers	PG	Label codes	Special provisions (§ 172.102)	(8) Packaging (§ 173.***) Exceptions	Non-bulk	Bulk	(9) Quantity limitations Passenger aircraft/rail	Cargo aircraft only	(10) Vessel stowage Location	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	*	*	*	*	*	*	*	*	*	*			
	Rare gases and oxygen mixtures, compressed.	2.2	UN1980		2.2	79	306	302	None	75 kg	150 kg	A.	
	*	*	*	*	*	*	*	*	*	*			
	Rare gases mixtures, compressed.	2.2	UN1979		2.2		306	302	None	75 kg	150 kg	A.	
	*	*	*	*	*	*	*	*	*	*			
	Regulated medical waste.	6.2	UN3291	II	6.2	A13	134	197	197	No limit	No limit	A	40.
	*	*	*	*	*	*	*	*	*	*			
	[Add]:												
	*	*	*	*	*	*	*	*	*	*			
	Crotonaldehyde or Crotonaldehyde, stabilized.	6.1	UN1143	I	6.1, 3	2, 175, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45.	None	227	244	Forbidden	Forbidden	B	40.
	Crotonic acid, liquid	8	UN3472	III	8	IB8, T1	154	203	241	5 L	60 L	A	12.
	Crotonic acid, solid	8	UN2823	III	8	IB8, IP3, T1, TP33.	154	213	240	25 kg	100 kg	A	12.
	*	*	*	*	*	*	*	*	*	*			
	Formic acid*with not less than 10% but not more than 85% acid by mass*.	8	UN3412	II	8	IB2, T7, TP2	154	202	242	1 L	30 L	A	40.
	Formic acid*with not less than 5% but less than 10% acid by mass*.	8	UN3412	III	8	IB3, T4, TP1	154	203	241	5 L	60 L	A	40
	Formic acid *with more than 85% acid by mass*.	8	UN1779	II	8, 3	B2, B28, IB2, T7, TP2.	154	202	242	1 L	30 L	A	40.
	*	*	*	*	*	*	*	*	*	*			
	Fuel cell cartridges.*containing flammable liquids*.	3	UN3473	II	3		150	230	None	5 L	60 L	A.	
	*	*	*	*	*	*	*	*	*	*			
	Hydrogendifluorides, solid, n.o.s.	8	UN1740	II	8	IB8, IP2, IP4, N3, N34, T3, TP33.	None	212	240	15 kg	50 kg	A	25, 40, 52.
				III	8	IB8, IP3, N3, N34, T1, TP33.	154	213	240	25 kg	100 kg	A	25, 40, 52.
	Hydrogendifluoride solution, n.o.s.	8	UN3471	II	8, 6.1	IB2, T7, TP2	154	202	242	1 L	30 L	A	25, 40, 52.
				III	8, 6.1	IB3, T4, TP1	154	203	241	5 L	60 L	A	25, 40, 52.

*			*	*	*	*	*	*					
Nitric acid *other than red fuming with not more than 20 percent nitric acid.*	8	UN2031	II	8	A6, B2, B47, B53, IB2, T8, TP2, TP12.	None	158	242	1 L	30 L	D.		
*			*	*	*	*	*	*					
Paint, corrosive, flammable *(including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base).*	8	UN3470	II	8, 3	IB2, T7, TP2, TP8, TP28.	154	202	243	1 L	30 L	B	40.	
Paint related material corrosive, flammable *(including paint thinning or reducing compound).*	8	UN3470	II	8, 3	IB2, T7, TP2, TP8, TP28.	154	202	243	1 L	30 L	B	40.	
*			*	*	*	*	*	*					
Paint, flammable, corrosive *(including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base).*	3	UN3469	I	3, 8	T11, TP2, TP27	None	201	243	0.5 L	2.5 L	E	40.	
			II	3, 8	IB2, T7, TP2, TP8, TP28.	150	202	243	1 L	5 L	B	40.	
			III	3, 8	IB3, T4, TP1, TP29.	150	203	242	5 L	60 L	A	40.	
Paint related material, flammable, corrosive *(including paint thinning or reducing compound.*	3	UN3469	I	3, 8	T11, TP2, TP27	None	201	243	0.5 L	2.5 L	E	40.	
			II	3, 8	IB2, T7, TP2, TP8, TP28.	150	202	243	1 L	5 L	B	40.	
			III	3, 8	IB3, T4, TP1, TP29.	150	203	242	5 L	60 L	A	40.	
*			*	*	*	*	*	*					
Propionic acid *with not less than 90% acid by mass.*	8	UN3463	II	8, 3	IB2, T7, TP2	154	202	243	1 L	30 L	A..		
Propionic acid *with not less than 10% and less than 90% acid by mass.*	8	UN1848	III	8	IB3, T4, TP1	154	203	241	5 L	60 L	A..		

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification numbers	PG	Label codes	Special provisions (§ 172.102)	(8) Packaging (§ 173.***)			(9) Quantity limitations		(10) Vessel stowage	
							Exceptions	Non-bulk	Bulk	Passenger aircraft/rail	Cargo aircraft only	Location	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	*	*		*	*	*	*		*	*			
	Regulated medical waste, n.o.s. *or* Clinical waste, unspecified, n.o.s. *or* (BIO) Medical waste, n.o.s.	6.2	UN3291	II	6.2	A13	134	197	197	No limit	No limit	B	40.
	*	*		*	*	*	*		*	*			
	[Revise]:												
	*	*		*	*	*	*		*	*			
	Aerosols, *non-flammable,(each not exceeding 1 L capacity).*	2.2	UN1950		2.2		306	None	None	75 kg	150 kg	A	48, 87, 126.
	*	*		*	*	*	*		*	*			
G	Amines, flammable, corrosive, n.o.s. *or* Polyamines, flammable, corrosive, n.o.s.	3	UN2733	I	3, 8	T14, TP1, TP27	None	201	243	0.5 L	2.5 L	D	40, 52.
				II	3, 8	IB2, T11, TP1, TP27.	150	202	243	1 L	5 L	B	40, 52.
				III	3, 8	B1, IB3, T7, TP1, TP28.	150	203	242	5 L	60 L	A	40, 52.
	*	*		*	*	*	*		*	*			
	Aminopyridines *(o-; m-; p-).*	6.1	UN2671	II	6.1	IB8, IP2, IP4, T3, TP33.	153	212	242	25 kg	100 kg	B	12, 40, 52.
I	Ammonia, anhydrous.	2.3	UN1005		2.3, 8	4, T50	None	304	314, 315	Forbidden	Forbidden	D	40, 52, 57.
D	Ammonia, anhydrous.	2.2	UN1005		2.2	13, T50	None	304	314, 315	Forbidden	Forbidden	D	40, 52, 57.
D	Ammonia solution, *relative density less than 0.880 at 15 degrees C in water, with more than 50 percent ammonia.*	2.2	UN3318		2.2	13,T50	None	304	314, 315	Forbidden	Forbidden	D	40, 52, 57.
I	Ammonia solution, *relative density less than 0.880 at 15 degrees C in water, with more than 50 percent ammonia.*	2.3	UN3318		2.3, 8	4,T50	None	304	314, 315	Forbidden	Forbidden	D	40, 52, 57.

	Ammonia solutions, *relative density between 0.880 and 0.957 at 15 degrees C in water, with more than 10 percent but not more than 35 percent ammonia.*	8	UN2672	III	8	IB3, IP8, T7, TP1	154	203	241	5 L	60 L	A	40, 52, 85.
	Ammonia solutions, *relative density less than 0.880 at 15 degrees C in water, with more than 35 percent but not more than 50 percent ammonia.*	2.2	UN2073		2.2		306	304	314, 315	Forbidden	150 kg	E	40, 52, 57.
		*		*	*	*	*		*	*			
	Antimony trichloride, solid.	8	UN1733	II	8	IB8, IP2, IP4, T3, TP33.	154	212	240	15 kg	50 kg	A	40.
		*		*	*	*	*		*	*			
	Articles, explosive, extremely insensitive *or* Articles, EEI.	1.6N	UN0486	II	1.6N		None	62	None	Forbidden	Forbidden	07.	
G	Articles, explosive, n.o.s.	1.4S	UN0349	II	1.4S		None	62	None	25 kg	100 kg	05.	
G	Articles, explosive, n.o.s.	1.4B	UN0350	II	1.4B		None	62	None	Forbidden	Forbidden	06.	
G	Articles, explosive, n.o.s.	1.4C	UN0351	II	1.4C		None	62	None	Forbidden	75 kg	06.	
G	Articles, explosive, n.o.s.	1.4D	UN0352	II	1.4D		None	62	None	Forbidden	75 kg	06.	
G	Articles, explosive, n.o.s.	1.4G	UN0353	II	1.4GD		None	62	None	Forbidden	75 kg	06.	
G	Articles, explosive, n.o.s.	1.1L	UN0354	II	1.1L		None	62	None	Forbidden	Forbidden	08	8E, 14E, 15E, 17E.
G	Articles, explosive, n.o.s.	1.2L	UN0355	II	1.2L		None	62	None	Forbidden	Forbidden	08	8E, 14E, 15E, 17E.
G	Articles, explosive, n.o.s.	1.3L	UN0356	II	1.3L		None	62	None	Forbidden	Forbidden	08	8E, 14E, 15E, 17E.
G	Articles, explosive, n.o.s.	1.1C	UN0462	II	1.1C		None	62	None	Forbidden	Forbidden	07.	
G	Articles, explosive, n.o.s.	1.1D	UN0463	II	1.1D		None	62	None	Forbidden	Forbidden	07.	
G	Articles, explosive, n.o.s.	1.1E	UN0464	II	1.1E		None	62	None	Forbidden	Forbidden	07.	
G	Articles, explosive, n.o.s.	1.1F	UN0465	II	1.1F		None	62	None	Forbidden	Forbidden	08.	
G	Articles, explosive, n.o.s.	1.2C	UN0466	II	1.2C		None	62	None	Forbidden	Forbidden	07.	
G	Articles, explosive, n.o.s.	1.2D	UN0467I	I	1.2D		None	62	None	Forbidden	Forbidden	07.	
G	Articles, explosive, n.o.s.	1.2E	UN0468	II	1.2E		None	62	None	Forbidden	Forbidden	07.	
G	Articles, explosive, n.o.s.	1.2F	UN0469	II	1.2F		None	62	None	Forbidden	Forbidden	08.	

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification numbers	PG	Label codes	Special provisions (§ 172.102)	(8) Packaging (§ 173.***) Exceptions	Non-bulk	Bulk	(9) Quantity limitations Passenger aircraft/rail	Cargo aircraft only	(10) Vessel stowage Location	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
G	Articles, explosive, n.o.s.	1.3C	UN0470	II	1.3C		None	62	None	Forbidden	Forbidden	07.	
G	Articles, explosive, n.o.s.	1.4E	UN0471	II	1.4E		None	62	None	Forbidden	75 kg	06.	
G	Articles, explosive, n.o.s.	1.4F	UN0472	II	1.4F		None	62	None	Forbidden	Forbidden	08.	
		*		*	*	*	*		*	*			
	Batteries, dry, containing potassium hydroxide solid, *electric, storage*.	8	UN3028	III	8		None	213	None	25 kg gross	230 kg gross.	A	52.
		*		*	*	*	*		*	*			
	Batteries, wet, filled with alkali, *electric storage*.	8	UN2795	III	8		159	159	159	30 kg gross	No limit	A	52.
		*		*	*	*	*		*	*			
	Battery fluid, alkali	8	UN2797	II	8	B2, IB2, N6, T7, TP2, TP28.	154	202	242	1 L	30 L	A	29, 52.
		*		*	*	*	*		*	*			
	Benzyl bromide	6.1	UN1737	II	6.1, 8	A3, A7, IB2, N33, N34, T8, TP2, TP12, TP13.	None	202	243	1 L	30 L	D	13, 40.
	Benzyl chloride	6.1	UN1738	II	6.1, 8	A3, A7, B70, IB2, N33, N42, T8, TP2, TP12, TP13.	None	202	243	1 L	30 L	D	13, 40.
		*		*	*	*	*		*	*			
	Caesium hydroxide	8	UN2682	II	8	IB8, IP2, IP4, T3, TP33.	154	212	240	15 kg	50 kg	A	29, 52.
	Caesium hydroxide solution.	8	UN2681	II	8	B2, IB2, T7, TP2	154	202	242	1 L	30 L	A	29, 52.
				III	8	IB3, T4, TP1	154	202	241	5 L	60 L	A	29, 52.
		*		*	*	*	*		*	*			
	Calcium hypochlorite, hydrated *or* Calcium hypochlorite, hydrated mixtures, *with not less than 5.5 percent but not more than 16 percent water*.	5.1	UN2880	II	5.1	165, IB8, IP2, IP4, IP13, W9.	152	212	240	5 kg	25 kg	D	4, 25, 48, 52, 56, 58, 69, 142.
G	Caustic alkali liquids, n.o.s.	8	UN1719	II	8	B2, IB2, T11, TP2, TP27.	154	202	242	1 L	30 L	A	29, 52.
				III	8	IB3, T7, TP1, TP28.	154	203	241	5 L	60 L	A	29, 52.

		*		*	*	*	*		*	*				
	Charges, shaped, flexible, linear.	1.1D	UN0288	II	1.1D		None	62	None	Forbidden	Forbidden	07.		
		*		*	*	*	*		*	*				
	Chlorosilanes, corrosive, n.o.s.	8	UN2987	II	8	B2, IB2, T14, TP2, TP27.	None	202	242	1 L	30 L	C	40.	
	Chlorosilanes, flammable, corrosive, n.o.s.	3	UN2985	II	3, 8	IB1, T11, TP2, TP13, TP27.	None	201	243	1 L	5 L	B	40.	
	Chlorosilanes, toxic, corrosive, n.o.s.	6.1	UN3361	II	6.1, 8	IB1, T11, TP2, TP13.	None	202	243	1 L	30 L	C	40.	
	Chlorosilanes, toxic, corrosive, flammable, n.o.s.	6.1	UN3362	II	6.1, 3, 8	IB1, T11, TP2, TP13.	None	202	243	1 L	30 L	C	40, 125.	
		*		*	*	*	*		*	*				
	Chromium trioxide, anhydrous.	5.1	UN1463	II	5.1, 6.1, 8	IB8, IP4, T3, TP33.	None	212	242	5 kg	25 kg	A.		
		*		*	*	*	*		*	*				
G	Components, explosive train, n.o.s.	1.2B	UN0382	II	1.2B		None	62	None	Forbidden	Forbidden	11.		
G	Components, explosive train, n.o.s.	1.4B	UN0383	II	1.4B		None	62	None	Forbidden	75 kg	06.		
G	Components, explosive train, n.o.s.	1.4S	UN0384	II	1.4S		None	62	None	25 kg	100 kg	05.		
G	Components, explosive train, n.o.s.	1.1B	UN0461	II	1.1B		None	62	None	Forbidden	Forbidden	11.		
		*		*	*	*	*		*	*				
G	Compressed gas, n.o.s.	2.2	UN1956		2.2	77	306, 307	302, 305	314, 315	75 kg	150 kg	A..		
		*		*	*	*	*		*	*				
	Contrivances, water-activated, *with burster, expelling charge or propelling charge*.	1.2L	UN0248	II	1.2L		None	62	None	Forbidden	Forbidden	08	8E, 14E, 15E, 17E.	
	Contrivances, water-activated, *with burster, expelling charge or propelling charge*.	1.3L	UN0249	II	1.3L		None	62	None	Forbidden	Forbidden	08	8E, 14E, 15E, 17E.	
		*		*	*	*	*		*	*				
G	Corrosive, liquid, acidic, inorganic, n.o.s.	8	UN3264	I	8	A6, B10, T14, TP2, TP27.	None	201	243	0.5 L	2.5 L	B	40.	
				II	8	B2, IB2, T11, TP2, TP27.	154	202	242	1 L	30 L	B	40.	
				III	8	IB3, T7, TP1, TP28.	154	203	241	5 L	60 L	A	40.	
		*		*	*	*	*		*	*				
	Dangerous Goods in Machinery *or* Dangerous Goods in Apparatus.	9	UN3363			136, A105	None	222	None	See A105	See A105	A..		

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification numbers	PG	Label codes	Special provisions (§ 172.102)	(8) Packaging (§ 173.***) Exceptions	Non-bulk	Bulk	(9) Quantity limitations Passenger aircraft/rail	Cargo aircraft only	(10) Vessel stowage Location	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
		*		*	*	*	*		*	*			
	Dimethylamine solution.	3	UN1160	II	3, 8	IB2, T7, TP1	150	202	243	1 L	5 L	B	52.
		*		*	*	*	*		*	*			
	1, 3-Dimethylbutylamine.	3	UN2379	II	3, 8	IB2, T7, TP1	150	202	243	1 L	5 L	B	52.
		*		*	*	*	*		*	*			
	Dimethylhydrazine, symmetrical.	6.1	UN2382	I	6.1, 3	2, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45.	None	227	244	Forbidden	Forbidden	D	40, 52, 74.
	Dimethylhydrazine, unsymmetrical.	6.1	UN1163	I	6.1, 3, 8	2, B7, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45.	None	227	244	Forbidden	Forbidden	D	21, 38, 40, 52, 100.
		*		*	*	*	*		*	*			
	Disodium trioxosilicate.	8	UN3253	III	8	IB8, IP3, T1, TP33.	154	213	240	25 kg	100 kg	A	52.
		*		*	*	*	*		*	*			
	Ethanolamine *or* Ethanolamine solutions.	8	UN2491	III	8	IB3, T4, TP1	154	203	241	5 L	60 L	A	52.
		*		*	*	*	*		*	*			
	Ethylamine, aqueous solution *with not less than 50 percent but not more than 70 percent ethylamine.*	3	UN2270	II	3, 8	IB2, T7, TP1	150	202	243	1 L	5 L	B	40, 52.
		*		*	*	*	*		*	*			
	Ethylenediamine	8	UN1604	II	8, 3	IB2, T7, TP2	154	202	243	1 L	30 L	A	40, 52.
		*		*	*	*	*		*	*			
	1-Ethylpiperidine	3	UN2386	II	3, 8	IB2, T7, TP1	150	202	243	1 L	5 L	B	52.
		*		*	*	*	*		*	*			
	Ethyltrichlorosilane	3	UN1196	II	3, 8	A7, IB1, N34, T7, TP2, TP13.	None	202	243	1 L	5 L	B	40.
		*		*	*	*	*		*	*			
	Hydrazine, anhydrous.	8	UN2029	I	8, 3, 6.1	A3, A6, A7, A10, B7, B16, B53.	None	201	243	Forbidden	2.5 L	D	40, 52, 125.
	Hydrazine, aqueous solution, *with not more than 37 percent hydrazine, by mass.*	6.1	UN3293	III	6.1	IB3, T4, TP1	153	203	241	60 L	220 L	A	52.

	*		*	*	*	*	*	*					
Hydrazine, aqueous solution, *with more than 37 % hydrazine, by mass.*	8	UN2030	I	8, 6.1	B16, B53, T10, TP2, TP13.	None	201	243	Forbidden	2.5 L	D	40, 52.
			II	8, 6.1	B16, B53, IB2, T7, TP2, TP13.	None	202	243	Forbidden	30 L	D	40, 52.
			III	8, 6.1	B16, B53, IB3, T4, TP1.	None	203	241	5 L	60 L	D	40, 52.
	*		*	*	*	*	*	*					
Hydrogen in a metal hydride storage system.	2.1	UN3468		2.1	167	None	214	None	Forbidden	100 kg gross.	D.	
	*		*	*	*	*	*	*					
Hydrogen peroxide and peroxyacetic acid mixtures, stabilized *with acids, water, and not more than 5 percent peroxyacetic acid.*	5.1	UN3149	II	5.1, 8	145, A2, A3, A6, B53, IB2, IP5, T7, TP2, TP6, TP24.	None	202	243	1 L	5 L	D	25, 66, 75.
Hydrogen peroxide, aqueous solutions *with more than 40 percent but not more than 60 percent hydrogen peroxide (stabilized as necessary).*	5.1	UN2014	II	5.1, 8	12, B53, B80, B81, B85, IB2, IP5, T7, TP2, TP6, TP24, TP37.	None	202	243	Forbidden	Forbidden	D	25, 66, 75.
Hydrogen peroxide, aqueous solutions *with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary).*	5.1	UN2014	II	5.1, 8	A2, A3, A6, B53, IB2, IP5, T7, TP2, TP6, TP24, TP37.	None	202	243	1 L	5 L	D	25, 66, 75.
Hydrogen peroxide, aqueous solutions *with not less than 8 percent but less than 20 percent hydrogen peroxide (stabilized as necessary).*	5.1	UN2984	III	5.1	A1, IB2 IP5, T4, TP1, TP6, TP24, TP37.	152	203	243	2.5 L	30 L	B	25, 66, 75.
Hydrogen peroxide, stabilized *or* Hydrogen peroxide aqueous solutions, stabilized *with more than 60 percent hydrogen peroxide.*	5.1	UN2015	I	5.1, 8	12, B53, B80, B81, B85, T9, TP2, TP6, TP24, TP37.	None	201	243	Forbidden	Forbidden	D	25, 66, 75.

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification numbers	PG	Label codes	Special provisions (§ 172.102)	(8) Packaging (§ 173.***) Exceptions	Non-bulk	Bulk	(9) Quantity limitations Passenger aircraft/rail	Cargo aircraft only	(10) Vessel stowage Location	Other
	*			*	*	*	*		*	*			
	Hypochlorite solutions.	8	UN1791	II	8	A7, B2, B15, IB2, IP5, N34, T7, TP2, TP24.	154	202	242	1 L	30 L	B	26.
	*			*	*	*	*		*	*			
	Lead phosphite, dibasic.	4.1	UN2989	II	4.1	IB8, IP2, IP4, T3, TP33.	None	212	240	15 kg	50 kg	B	34.
				III	4.1	IB8, IP3, T1, TP33.	151	213	240	25 kg	100 kg	B	34.
	*			*	*	*	*		*	*			
	Lithium hydroxide ..	8	UN2680	II	8	IB8, IP2, IP4, T3, TP33.	154	212	240	15 kg	50 kg	A	52.
	Lithium hydroxide, solution.	8	UN2679	II	8	B2, IB2, T7, TP2	154	202	242	1 L	30 L	A	29, 52.
				III	8	IB3, T4, TP2	154	203	241	5 L	60 L	A	29, 52, 96.
	*			*	*	*	*		*	*			
	Methylamine, aqueous solution.	3	UN1235	II	3, 8	B1, IB2, T7, TP1	150	202	243	1 L	5 L	E	52, 135.
	*			*	*	*	*		*	*			
	Methylhydrazine	6.1	UN1244	I	6.1, 3, 8	1, B7, B9, B14, B30, B72, B77, N34, T22, TP2, TP13, TP38, TP44.	None	226	244	Forbidden	Forbidden	D	21, 40, 49, 52, 100.
	*			*	*	*	*		*	*			
	Methylphenyldichlorosilane.	8	UN2437	II	8	IB2, T7, TP2, TP13.	None	202	242	1 L	30 L	C	40.
	1-Methylpiperidine	3	UN2399	II	3, 8	IB2, T7, TP1	150	202	243	1 L	5 L	B	52.
	*			*	*	*	*		*	*			
+	Motor fuel anti-knock mixtures.	6.1	UN1649	I	6.1	14, 151, B9, B90, T14, TP2, TP13.	None	201	244	Forbidden	30 L	D	25, 40.
	*			*	*	*	*		*	*			
G	Organoarsenic compound, liquid, n.o.s.	6.1	UN3280	I	5, T14, TP2, TP13, TP27.	None	201	242	1 L	30 L	B	6.1.	
				II	6.1	IB2, T11, TP2, TP27.	153	202	242	5L	60L	B.	
				III	6.1	IB3, T7, TP1, TP28.	153	203	241	60 L	220 L	A.	
	*			*	*	*	*		*	*			
G	Organometallic substance, solid, pyrophoric.	4.2	UN3391	I	4.2	T21, TP7, TP33	None	187	244	Forbidden	Forbidden	D.	

G	Organometallic substance, solid, pyrophoric, water-reactive.	4.2	UN3393	I	4.2, 4.3	B11, T21, TP7, TP33.	None	187	244	Forbidden	Forbidden	D	52.
*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Paint *including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base.*	3	UN1263	I	3	T11, TP1, TP8, TP27.	150	201	243	1 L	30 L	E.	
				II	3	149, B52, IB2, T4, TP1, TP8, TP28.	150	173	242	5 L	60 L	B.	
				III	3	B1, B52, IB3, T2, TP1, TP29.	150	173	242	60 L	220 L	A.	
	Paint *or* Paint related materials.	8	UN3066	II	8	B2, IB2, T7, TP2, TP28.	154	173	242	1 L	30 L	A.	
				III	8	B52, IB3, T4, TP1, TP29.	154	173	241	5 L	60 L	A.	
	Paint related material *including paint thinning, drying, removing, or reducing compound.*	3	UN1263	I	3	T11, TP1, TP8, TP27.	150	201	243	1 L	30 L	E.	
				II	3	149, B52, IB2, T4, TP1, TP8, TP28.	150	173	242	5 L	60 L	B.	
				III	3	B1, B52, IB3, T2, TP1, TP29.	150	173	242	60 L	220 L	A.	
*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Plastic molding compound *in dough, sheet or extruded rope form evolving flammable vapor.*	9	UN3314	III	9	32, IB8, IP3, IP7	155	221	221	100 kg	200 kg	E	19, 21, 25, 87, 144.
*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Polymeric beads expandable, *evolving flammable vapor.*	9	UN2211	III	9	32, IB8, IP3, IP7, T1, TP33.	155	221	221	100 kg	200 kg	E	19, 21. 25, 87, 144.
*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Potassium hydroxide, solid.	8	UN1813	II	8	IB8, IP2, IP4, T3, TP33.	154	212	240	15 kg	50 kg	A	52.
	Potassium hydroxide, solution.	8	UN1814	II	8	B2, IB2, T7, TP2	154	202	242	1 L	30 L	A	52.
				III	8	IB3, T4, TP1	154	203	241	5 L	60 L	A	52.
*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Potassium monoxide.	8	UN2033	II	8	IB8, IP2, IP4, T3, TP33.	154	212	240	15 kg	50 kg	A	29, 52.
*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Pyrrolidine	3	UN1922	II	3, 8	IB2, T7, TP1	150	202	243	1 L	5 L	B	40, 52
*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Rubidium hydroxide.	8	UN2678	II	8	IB8, IP2, IP4, T3, TP33.	154	212	240	15 kg	50 kg	A	29, 52.

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification numbers	PG	Label codes	Special provisions (§ 172.102)	(8) Packaging (§ 173.***) Exceptions	Non-bulk	Bulk	(9) Quantity limitations Passenger aircraft/rail	Cargo aircraft only	(10) Vessel stowage Location	Other
	Rubidium hydroxide solution.	8	UN2677	II	8	B2, IB2, T7, TP2	154	202	242	1 L	30 L	A	29, 52.
				III	8	IB3, T4, TP1	154	203	241	5 L	60 L	A	29, 52.
	*			*	*	*	*		*	*			
	Soda lime *with more than 4 percent sodium hydroxide.*	8	UN1907	III	8	IB8, IP3, T1, TP33.	154	213	240	25 kg	100 kg	A	52.
	*			*	*	*	*		*	*			
	Sodium aluminate, solution.	8	UN1819	II	8	B2, IB2, T7, TP2	154	202	242	1 L	30 L	A	52.
				III	8	IB3, T4, TP1	154	203	241	5 L	60 L	A	52.
	*			*	*	*	*		*	*			
	Sodium hydrosulfide, *with less than 25 percent water of crystallization.*	4.2	UN2318	II	4.2	A7, A19, A20, IB6, IP2, T3, TP33.	None	212	241	15 kg	50 kg	A	52.
	*			*	*	*	*		*	*			
	Sodium hydroxide, solid.	8	UN1823	II	8	IB8, IP2, IP4, T3, TP33.	154	212	240	15 kg	50 kg	A	52.
	Sodium hydroxide solution.	8	UN1824	II	8	B2, IB2, N34, T7, TP2.	154	202	242	1 L	30 L	A	52.
				III	8	IB3, N34, T4, TP1.	154	203	241	5 L	60 L	A	52.
	*			*	*	*	*		*	*			
	Sodium monoxide	8	UN1825	II	8	IB8, IP2, IP4, T3, TP33.	154	212	240	15 kg	50 kg	A	52.
	*			*	*	*	*		*	*			
	Sodium sulfide, hydrated *with not less than 30 percent water.*	8	UN1849	II	8	IB8, IP2, IP4, T3, TP33.	154	212	240	15 kg	50 kg	A	52.
	*			*	*	*	*		*	*			
G	Substances, explosive, n.o.s.	1.1L	UN0357	II	1.1L		None	62	None	Forbidden	Forbidden		8E, 14E, 15E, 17E.
G	Substances, explosive, n.o.s.	1.2L	UN0358	II	1.2L		None	62	None	Forbidden	Forbidden		8E, 14E, 15E, 17E.
G	Substances, explosive, n.o.s.	1.3L	UN0359	II	1.3L		None	62	None	Forbidden	Forbidden		8E, 14E, 15E, 17E.
G	Substances, explosive, n.o.s.	1.1A	UN0473	II	1.1A	111	None	62	None	Forbidden	Forbidden	12.	
G	Substances, explosive, n.o.s.	1.1C	UN0474	II	1.1C		None	62	None	Forbidden	Forbidden	10.	
G	Substances, explosive, n.o.s.	1.1D	UN0475	II	1.1D		None	62	None	Forbidden	Forbidden	10.	
G	Substances, explosive, n.o.s.	1.1G	UN0476	II	1.1G		None	62	None	Forbidden	Forbidden	08.	

G	Substances, explosive, n.o.s.	1.3C	UN0477	II	1.3C		None	62	None	Forbidden	Forbidden	10.		
G	Substances, explosive, n.o.s.	1.3G	UN0478	II	1.3G		None	62	None	Forbidden	Forbidden	08.		
G	Substances, explosive, n.o.s.	1.4C	UN0479	II	1.4C		None	62	None	Forbidden	75 kg	09.		
G	Substances, explosive, n.o.s.	1.4D	UN0480	II	1.4D		None	62	None	Forbidden	75 kg	09.		
G	Substances, explosive, n.o.s.	1.4S	UN0481	II	1.4S		None	62	None	25 kg	75 kg	05.		
G	Substances, explosive, n.o.s.	1.4G	UN0485	II	1.4G		None	62	None	Forbidden	75 kg	08.		
G	Substances, explosive, very insensitive, n.o.s.*or* Substances,EVI, n.o.s.	1.5D	UN0482	II	1.5D		None	62	None	Forbidden	Forbidden	10.		
		*		*	*	*	*		*	*				
I	Sulfur	4.1	UN1350	III	4.1	30, IB8, IP3, T1, TP33.	None	None	240	25 kg	100 kg	A	19, 74.	
		*		*	*	*	*		*	*				
	Tetraethylenepentamine.	8	UN2320	III	8	IB3, T4, TP1	154	203	241	5 L	60 L	A	52.	
		*		*	*	*	*		*	*				
	Trimethylchlorosilane.	3	UN1298	II	3, 8	A3, A7, B77, IB2, N34, T7, TP2, TP13.	None	202	243	1 L	5 L	E	40.	
		*		*	*	*	*		*	*				
	Vinylpyridines, stabilized.	6.1	UN3073	II	6.1, 3, 8	IB1, T7, TP2, TP13.	153	202	243	1 L	30 L	B	21, 40, 52.	
		*		*	*	*	*		*	*				

* * * * *

■ 6. In Appendix B to § 172.101, the List of Marine Pollutants, the entry ''Copper chloride'' is amended by adding the designation ''PP'' in Column (1) and the entries ''Alcohol C–13—C–15 poly (1–6) ethoxylate'' and ''1,2-Dichlorobenzene'' are removed.

■ 7. In § 172.102, paragraph (c)(1), Special Provisions 15, 47, 77, 146, 147, and 166 are revised; new Special Provision 175 is added; Special Provision 101 is removed; and in paragraph (c)(2), new Special Provision A105 is added.

The revisions and additions read as follows:

§ 172.102 Special provisions.

* * * * *

(c) * * *

(1) * * *

Code/Special Provisions

* * * * *

15 This entry applies to ''Chemical kits'' and ''First aid kits'' containing one or more compatible items of hazardous materials in boxes, cases, etc. that, for example, are used for medical, analytical, diagnostic, testing, or repair purposes. For transportation by aircraft, materials forbidden for transportation by passenger aircraft or cargo aircraft may not be included in the kits. Chemical kits and first aid kits are excepted from the specification packaging requirements of this subchapter when packaged in combination packagings. Chemical kits and first aid kits are also excepted from the labeling and placarding requirements of this subchapter, except when offered for transportation or transported by air. Chemical and first aid kits may be transported in accordance with the consumer commodity and ORM exceptions in § 173.156, provided they meet all required conditions. Kits that are carried on board transport vehicles for first aid or operating purposes are not subject to the requirements of this subchapter.

* * * * *

47 Mixtures of solids that are not subject to this subchapter and flammable liquids may be transported under this entry without first applying the classification criteria of Division 4.1, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Except when the liquids are fully absorbed in solid material contained in sealed bags, each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level. Small inner packagings consisting of sealed packets and articles containing less than 10 mL of a Class 3 liquid in Packing Group II or III absorbed onto a solid material are not subject to this subchapter provided there is no free liquid in the packet or article.

* * * * *

77 Mixtures containing not more than 23.5% oxygen by volume may be transported under this entry when no other oxidizing gases are present. A Division 5.1 subsidiary risk label is not required if this special provision applies.

* * * * *

146 This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in § 171.8 of this subchapter, or any hazard class, as defined in part 173 of this subchapter, if it is designated as environmentally hazardous by another Competent Authority. This provision may be used for both domestic and international shipments.

147 This entry applies to non-sensitized emulsions, suspensions, and gels consisting primarily of a mixture of ammonium nitrate and fuel, intended to produce a Type E blasting explosive only after further processing prior to use. The mixture for emulsions typically has the following composition: 60–85% ammonium nitrate; 5–30% water; 2–8% fuel; 0.5–4% emulsifier or thickening agent; 0–10% soluble flame suppressants; and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate. The mixture for suspensions and gels typically has the following composition: 60–85% ammonium nitrate; 0–5% sodium or potassium perchlorate; 0–17% hexamine nitrate or monomethylamine nitrate; 5–30% water; 2–15% fuel; 0.5–4% thickening agent; 0–10% soluble flame suppressants; and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate. These substances must satisfactorily pass Test Series 8 of the UN Manual of Tests and Criteria, Part I, Section 18 (IBR, see § 171.7 of this subchapter), and may not be classified and transported unless approved by the Associate Administrator.

* * * * *

166 When transported in non-friable tablet form, calcium hypochlorite, dry, may be transported as a Packing Group III material.

* * * * *

175 This substance must be stabilized when in concentrations of not more than 99%.

(2) * * *

Code/Special Provisions

* * * * *

A105 The total net quantity of dangerous goods contained in one package, excluding magnetic material, must not exceed the following:

a. 1 kg (2.2 pounds) in the case of solids;

b. 0.5 L (0.1 gallons) in the case of liquids;

c. 0.5 kg (1.1 pounds) in the case of Division 2.2 gases; or

d. any combination thereof.

■ 8. In § 172.202, paragraphs (a) and (b) are revised to read as follows:

§ 172.202 Description of hazardous material shipping papers.

(a) The shipping description of a hazardous material on the shipping paper must include:

(1) The identification number prescribed for the material as shown in Column (4) of the § 172.101 table;

(2) The proper shipping name prescribed for the material in Column (2) of the § 172.101 table;

(3) The hazard class or division number prescribed for the material, as shown in Column (3) of the § 172.101 table. Except for combustible liquids, the subsidiary hazard class(es) or subsidiary division number(s) must be entered in parentheses immediately following the primary hazard class or division number. In addition—

(i) The words ''Class'' or ''Division'' may be included preceding the primary and subsidiary hazard class or division numbers.

(ii) The hazard class need not be included for the entry ''Combustible liquid, n.o.s.''

(iii) For domestic shipments, primary and subsidiary hazard class or division names may be entered following the numerical hazard class or division, or following the basic description.

(4) The packing group in Roman numerals, as designated for the hazardous material in Column (5) of the § 172.101 table. Class 1 (explosives) materials, self-reactive substances, organic peroxides and entries that are not assigned a packing group are excepted from this requirement. The packing group may be preceded by the letters ''PG'' (for example, ''PG II''); and

(5) Except for transportation by aircraft, the total quantity of hazardous materials covered by the description must be indicated (by mass or volume, or by activity for Class 7 materials) and must include an indication of the applicable unit of measurement. For example, ''200 kg'' or ''50 L.'' The following provisions also apply:

(i) For Class 1 materials, the quantity must be the net explosive mass. For an explosive that is an article, such as Cartridges, small arms, the net explosive mass may be expressed in terms of the net mass of either the article or the explosive materials contained in the article.

(ii) For hazardous materials in salvage packaging, an estimate of the total quantity is acceptable.

(iii) The following are excepted from the requirements of paragraph (a)(5) of this section:

(A) Bulk packages, provided some indication of the total quantity is shown, for example, ''1 cargo tank'' or ''2 IBCs.''

(B) Cylinders, provided some indication of the total quantity is shown, for example, ''10 cylinders.''

(C) Packages containing only residue.

(6) For transportation by aircraft, the total net mass per package, must be shown unless a gross mass is indicated in Columns (9A) or (9B) of the § 172.101 table in which case the total gross mass per package must be shown; or, for Class 7 materials, the quantity of radioactive material must be shown by activity. The following provisions also apply:

(i) For empty uncleaned packaging, only the number and type of packaging must be shown;

(ii) For chemical kits and first aid kits, the total net mass of hazardous materials must be shown. Where the kits contain solids and/or liquids, the net mass of liquids within the kits is to be calculated on a 1 to 1 basis, i.e., 1 L equals 1 kg;

(iii) For dangerous goods in machinery or apparatus, the individual total quantities or an estimate of the individual total quantities of dangerous goods in solid, liquid or gaseous state, contained in the article must be shown;

(iv) For dangerous goods transported in a salvage packaging, an estimate of the quantity of dangerous goods per package must be shown;

(v) For cylinders, total quantity may be indicated by the number of cylinders, for example, ''10 cylinders;''

(vi) For items where ''No Limit'' is shown in Column (9A) or (9B) of the § 172.101 table, the quantity shown should be the net mass or volume of the material, except for UN2800, UN3072, and UN3166 where the quantity should be the gross mass of the article; and

(7) The number and type of packages must be indicated. The type of packages must be indicated by description of the package (for example, ''12 drums''). Indication of the packaging specification number (''1H1'') may be included in the description of the package (for example, ''12 1H1 drums'' or ''12 drums (UN 1A1)''). Abbreviations may be used for indicating packaging types (for example, ''cyl.'' for ''cylinder'') provided the abbreviations are commonly accepted and recognizable.

(b) Except as provided in this subpart, the basic description specified in paragraphs (a)(1), (2), (3) and (4) of this section must be shown in sequence with no additional information interspersed. For example, ''UN2744, Cyclobutyl chloroformate, 6.1, (8, 3), PG II.''

* * * * *

■ 9. In § 172.312, paragraphs (a) introductory text, and (a)(2) introductory text are revised and a new paragraph (c)(7) is added to read as follows:

§ 172.312 Liquid hazardous materials in non-bulk packaging.

(a) Except as provided in this section, each non-bulk combination package having inner packagings containing liquid hazardous materials, single packaging fitted with vents, or open cryogenic receptacle intended for the transport of refrigerated liquefied gases must be:

(1) * * *

(2) Legibly marked with package orientation markings that are similar to the illustration shown in this paragraph, on two opposite vertical sides of the package with the arrows pointing in the correct upright direction. The arrows must be either black or red on white or other suitable contrasting background and commensurate with the size of the package. Depicting a rectangular border around the arrows is optional.

* * * * *

(c) * * *

(7) Class 7 radioactive material in Type A, IP–2, IP–3, Type B(U), or Type B(M) packages.

■ 10. In § 172.407, paragraph (d)(2)(i) is amended by removing ''; and'' at the end of the paragraph and adding a period in its place, and paragraph (d)(2)(iii) is added to read as follows:

§ 172.407 Label specifications.

* * * * *

(d) * * *

(2) * * *

(iii) White may be used for the symbol for the ORGANIC PEROXIDE label.

* * * * *

■ 11. Section 172.427 is revised to read as follows:

§ 172.427 ORGANIC PEROXIDE label.

(a) Except for size and color, the ORGANIC PEROXIDE label must be as follows:

(b) In addition to complying with § 172.407, the background on the ORGANIC PEROXIDE label must be red in the top half and yellow in the lower half.

■ 12. Section 172.552 is revised to read as follows:

§ 172.552 ORGANIC PEROXIDE placard.

(a) Except for size and color, the ORGANIC PEROXIDE placard must be as follows:

(b) In addition to complying with § 172.519, the background on the ORGANIC PEROXIDE placard must be red in the top half and yellow in the lower half. The text, division number and inner border must be black; the symbol may be either black or white.

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

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

Authority: 49 U.S.C. 5101–5128, 44701; 49 CFR 1.45, 1.53.

■ 14. Section 173.9 is revised to read as follows:

§ 173.9 Transport vehicles or freight containers containing lading which has been fumigated.

(a) For the purpose of this section, not including 49 CFR part 387, a rail car, freight container, truck body, or trailer in which the lading has been fumigated with any material, or is undergoing fumigation, is a package containing a hazardous material.

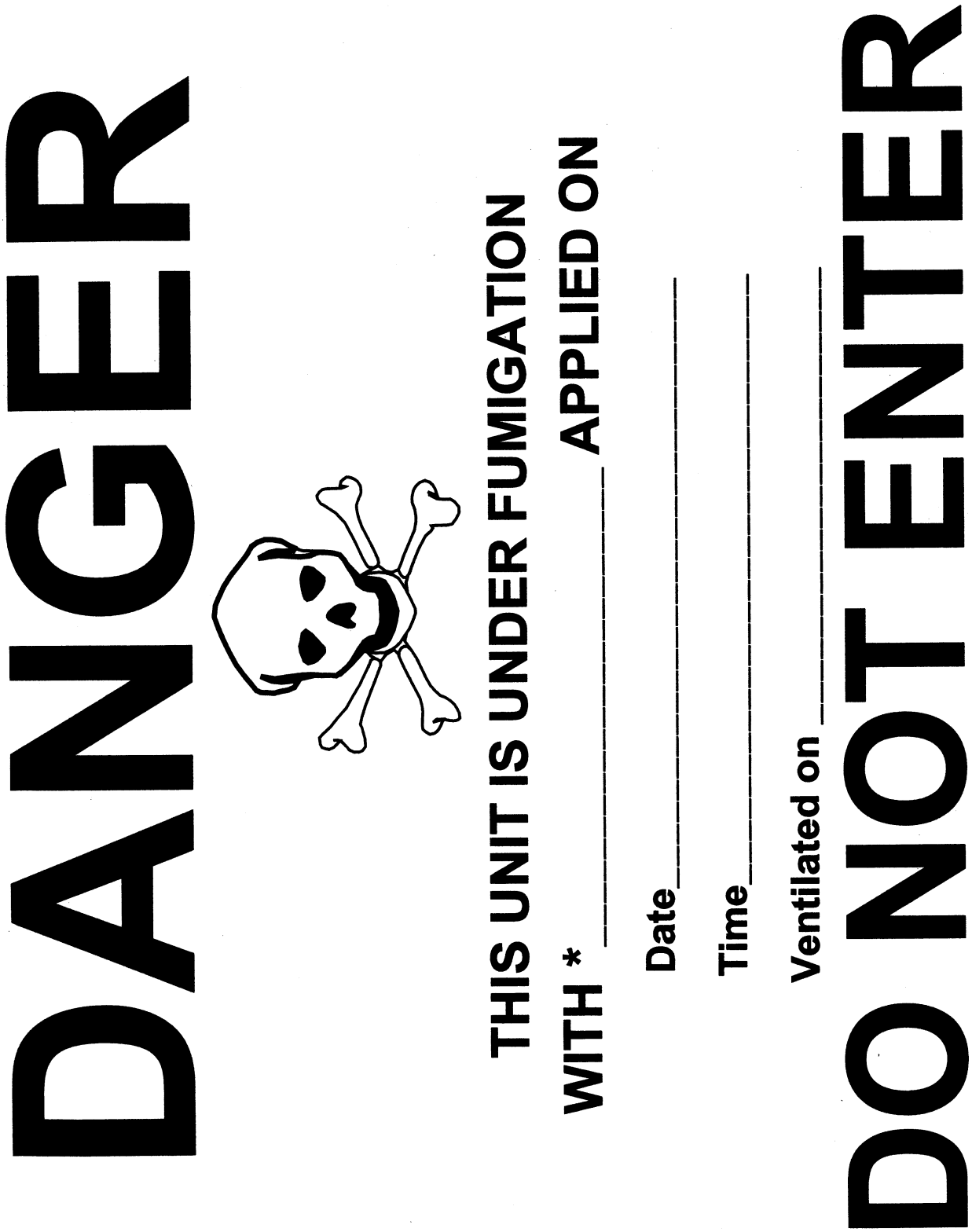
(b) No person may offer for transportation or transport a rail car, freight container, truck body, or trailer in which the lading has been fumigated or treated with any material, or is undergoing fumigation, unless the FUMIGANT marking specified in paragraph (e) of this section is prominently displayed so that it can be seen by any person attempting to enter the interior of the transport vehicle or freight container. For domestic transportation, a hazard warning label authorized by EPA under 40 CFR part 156 may be used as an alternative to the FUMIGANT marking.

(c) No person may affix or display on a rail car, freight container, truck body,

or trailer the FUMIGANT marking specified in paragraph (e) of this section, unless the lading has been fumigated or is undergoing fumigation.

(d) The FUMIGANT marking required by paragraph (b) of this section must remain on the rail car, freight container, truck body, or trailer until the rail car, freight container, truck body, or trailer has been completely ventilated either by opening the doors of the unit or by mechanical ventilation to ensure no harmful concentration of gas remains after fumigation has been completed.

(e) *FUMIGANT marking.* (1) The FUMIGANT marking must consist of red or black letters on a white background that is at least 30 cm (11.8 inches) wide and at least 25 cm (9.8 inches) high. Except for size and color, the FUMIGANT marking must be as follows:



(2) The ''*'' shall be replaced with the technical name of the fumigant.

(f) A closed cargo transport unit that has been fumigated is not subject to any other provisions of this subchapter if it—

(1) Has been completely ventilated either by opening the doors of the unit or by mechanical ventilation after fumigation, and

(2) Displays the FUMIGANT marking, including the date of ventilation.

(g) For international shipments, transport documents should indicate the date of fumigation, type and amount of fumigant used, and instructions for disposal of any residual fumigant, including fumigation devices.

(h) Any person subject to the requirements of this section, solely due to the fumigated lading, must be informed of the requirements of this section and the safety precautions necessary to protect themselves and others in the event of an incident or accident involving the fumigated lading.

(i) Any person who offers for transportation or transports a rail car, freight container, truck body or trailer that is subject to this subchapter solely because of the hazardous materials designation specified in paragraph (a) of this section is not subject to any requirements of this subchapter other than those contained in this section.

§ 173.35 [Amended]

■ 15. In § 173.35, in paragraph (k), the wording ''60.5 °C (141 °F)'' is removed and the wording ''60 °C (140 °F)'' is added in its place.

■ 16. In § 173.115, paragraphs (b)(1) and (k)(5) are revised to read as follows:

§ 173.115 Class 2, Divisions 2.1, 2.2, and 2.3—Definitions.

* * * * *

(b) * * *

(1) Exerts in the packaging an absolute pressure of 280 kPa (40.6 psia) or greater at 20 °C (68 °F), or is a cryogenic liquid, and

* * * * *

(k) * * *

(5) When the contents are classified as Division 6.1, PG III or Class 8, PG II or III, the aerosol must be assigned a subsidiary hazard of Division 6.1 or Class 8, as appropriate.

* * * * *

§ 173.120 [Amended]

■ 17. In § 173.120, in paragraphs (a) introductory text, (a)(2) and (b)(1), the wording ''60.5 °C (141 °F)'' is removed and the wording ''60 °C (140 °F)'' is added each place it appears.

§ 173.121 [Amended]

■ 18. In § 173.121, in the paragraph (a) table, in Column (2), for the entry Packing group ''III'', the wording ''≥ 23 °C, ≤ 60.5 °C (≥ 73 °F, ≤ 141 °F)'' is removed and the wording ''≥23 °C, ≤ 60 °C (≥ 73 °F, ≤ 140 °F)'' is added in its place.

■ 19. In § 173.124, a new paragraph (a)(2)(i)(D)*(3)* is added to read as follows:

§ 173.124 Class 4, Divisions 4.1, 4.2 and 4.3—Definitions.

(a) * * *

(2) * * *

(i) * * *

(D) * * *

* * * * *

(3) It is an oxidizing substance in Division 5.1 containing less than 5.0% combustible organic substances; or

* * * * *

■ 20. In § 173.133, in paragraph (a)(1), the table is revised to read as follows:

§ 173.133 Assignment of packing group and hazard zones for Division 6.1 materials.

(a) * * *

(1) * * *

Packing group	Oral toxicity LD_{50} (mg/kg)	Dermal toxicity LD_{50} (mg/kg)	Inhalation toxicity by dusts and mists LC_{50} (mg/L)
I	≤5.0	≤50	≤0.2
II	>5.0 and ≤50	>50 and ≤200	>0.2 and ≤2.0
III	>50 and ≤300	>200 and ≤1000	>2.0 and ≤4.0

* * * * *

■ 21. In § 173.134, paragraph (a)(5) is revised to read as follows:

§ 173.134 Class 6, Division 6.2—Definitions and exceptions.

(a) * * *

(5) *Regulated medical waste or clinical waste or (bio) medical waste* means a waste or reusable material derived from the medical treatment of an animal or human, which includes diagnosis and immunization, or from biomedical research, which includes the production and testing of biological products. Regulated medical waste or clinical waste or (bio) medical waste containing a Category A infectious substance must be classed as an infectious substance, and assigned to UN2814 or UN2900, as appropriate.

* * * * *

■ 22. In § 173.136, paragraph (d) is removed and the last sentence in paragraph (a) is revised to read as follows:

§ 173.136 Class 8—Definitions.

(a) * * * A liquid, or a solid which may become liquid during transportation, that has a severe corrosion rate on steel or aluminum based on the criteria in § 173.137(c)(2) is also a corrosive material.

* * * * *

■ 23. In § 173.137, paragraph (c)(2) is revised to read as follows:

§ 173.137 Class 8—Assignment of packing group.

* * * * *

(c) * * *

(2) That do not cause full thickness destruction of intact skin tissue but exhibit a corrosion on steel or aluminum surfaces exceeding 6.25 mm (0.25 inch) a year at a test temperature of 55 °C (130 °F). The corrosion may be determined in accordance with the UN Manual of Tests and Criteria (IBR, see § 171.7 of this subchapter) or other equivalent test methods.

■ 24. In § 173.159, paragraphs (a), (c)(1), (c)(2), (c)(4), (c)(5), (d)(1) and (e)(2) are revised to read as follows:

§ 173.159 Batteries, wet.

(a) Electric storage batteries, containing electrolyte acid or alkaline corrosive battery fluid, must be completely protected so that short circuits will be prevented (e.g., by the use of non-conductive caps that entirely cover the terminals); they may not be packed with other materials except as provided in paragraphs (g) and (h) of this section and in §§ 173.220 and 173.222. For transportation by aircraft, the packaging for wet cell batteries must incorporate an acid- or alkali-proof liner, or include a supplementary packaging with sufficient strength and be adequately sealed to prevent leakage of electrolyte fluid in the event of spillage.

* * * * *

(c) * * *

(1) Electric storage batteries protected against short circuits (e.g., by the use of non-conductive caps that entirely cover the terminals) and firmly secured to skids or pallets capable of withstanding the shocks normally incident to transportation, are authorized for transportation by rail, highway, or water. The height of the completed unit must not exceed 1½ times the width of the skid or pallet. The unit must be capable of withstanding, without damage, a superimposed weight equal to two times the weight of the unit or, if the weight of the unit exceeds 907 kg (2000 pounds), a superimposed weight of 1814 kg (4000 pounds). Battery terminals must not be relied upon to support any part of the superimposed weight.

(2) Electric storage batteries weighing 225 kg (500 pounds) or more, consisting of carriers' equipment, may be shipped by rail when mounted on suitable skids and protected against short circuits (e.g., by the use of non-conductive caps that entirely cover the terminals). Such shipments may not be offered in interchange service.

* * * * *

(4) Not more than four batteries not over 7 kg (15 pounds) each, packed in strong outer fiberboard or wooden boxes. Batteries must be securely cushioned and packed to prevent short circuits (e.g., by the use of non-conductive caps that entirely cover the terminals). The maximum authorized gross weight is 30 kg (65 pounds).

(5) Not more than five batteries not over 4.5 kg (10 pounds) each, packed in strong outer fiberboard or wooden boxes. Batteries must be securely cushioned and packed to prevent short circuits (e.g., by the use of non-conductive caps that entirely cover the terminals). The maximum authorized gross weight is 30 kg (65 pounds).

* * * * *

(d) * * *

(1) The battery must be protected against short circuits (e.g., by the use of non-conductive caps that entirely cover the terminals) and securely packaged;

* * * * *

(e) * * *

(2) The batteries must be loaded or braced so as to prevent damage and short circuits in transit (e.g., by the use of non-conductive caps that entirely cover the terminals);

* * * * *

■ 25. In § 173.166, paragraph (d)(1) is revised to read as follows:

§ 173.166 Air bag inflators, air bag modules and seat-belt pretensioners.

* * * * *

(d) * * *

(1) An air bag module or seat-belt pretensioner that has been approved by the Associate Administrator and is installed in a motor vehicle, aircraft, boat or other transport conveyance or its completed components, such as steering columns or door panels, is not subject to the requirements of this subchapter.

* * * * *

■ 26. Section 173.187 is revised to read as follows:

§ 173.187 Pyrophoric solids, metals or alloys, n.o.s.

Packagings for pyrophoric solids, metals, or alloys, n.o.s. must conform to the requirements of part 178 of this subchapter at the packing group performance level specified in the § 172.101 Table. These materials must be packaged as follows:

(a) In steel boxes (4A) and contain not more than 15 kg (33 pounds) each.

(b) In wooden boxes (4C1, 4C2, 4D, or 4F) with inner metal receptacles which have a positive (not friction) means of closure and contain not more than 15 kg (33 pounds) each.

(c) In fiberboard boxes (4G) with inner metal receptacles which have a positive (not friction) means of closure and contain not more than 7.5 kg (17 pounds) each.

(d) In steel drums (1A1 or 1A2) with a gross mass not exceeding 150 kg (331 pounds) per drum.

(e) In plywood drums (1D) with inner metal receptacles which have a positive (not friction) means of closure and contain not more than 15 kg (33 pounds) each.

(f) In fiber drums (1G) with inner metal receptacles which have a positive (not friction) means of closure and contain not more than 15 kg (33 pounds) each.

(g) In specification cylinders, as prescribed for any compressed gas, except for Specifications 8 and 3HT.

■ 27. In § 173.197, paragraph (a), the first sentence in paragraph (b), and the first sentence in paragraph (e)(2) are revised to read as follows:

§ 173.197 Regulated medical waste.

(a) *General provisions.* Non-bulk packagings, Large Packagings, and non-specification bulk outer packagings used for the transportation of regulated medical waste or clinical waste or (bio) medical waste must be rigid containers meeting the provisions of subpart B of this part.

(b) * * * Except as provided in § 173.134(c) of this subpart, non-bulk packagings for regulated medical waste or clinical waste or (bio) medical waste must be UN standard packagings conforming to the requirements of Part 178 of this subchapter at the Packing Group II performance level. * * *

* * * * *

(e) * * *

(2) * * *Liquid regulated medical waste or clinical waste or (bio) medical waste transported in a Large Packaging, Cart, or BOP must be packaged in a rigid inner packaging conforming to the provisions of subpart B of this part.

* * * * *

■ 28. In § 173.216, paragraph (c)(3) is revised and paragraph (c)(4) is removed to read as follows:

§ 173.216 Asbestos, blue, brown or white.

* * * * *

(c) * * *

(3) Bags or other non-rigid packagings which are dust and sift proof must be placed in rigid outer packagings or closed freight containers.

■ 29. In § 173.220, paragraphs (b)(2)(ii)(B)(*3*), (c) and (d) are revised to read as follows:

§ 173.220 Internal combustion engines, self-propelled vehicles, mechanical equipment containing internal combustion engines, and battery powered vehicles or equipment.

* * * * *

(b) * * *

(2) * * *

(ii) * * *

(B) * * *

(*3*) In no part of the closed system shall the pressure exceed 5% of the maximum allowable working pressure of the system or 290 psig (2000 kPa), whichever is less; and

* * * * *

(c) *Battery powered or installed.* Batteries must be securely installed, and wet batteries fastened in an upright position. Batteries must be protected against short circuits (e.g., by the use of non-conductive caps that entirely cover the terminals) and leakage or removed and packaged separately under § 173.159. Battery powered vehicles, machinery or equipment including battery powered wheelchairs and mobility aids are excepted from the requirements of this subchapter when transported by rail, highway or vessel.

(d) *Lithium batteries.* Except as provided in § 172.102, Special Provision A102, of this subchapter, vehicles and machinery powered by primary lithium batteries that are transported with these batteries installed are forbidden aboard passenger-carrying aircraft. Lithium batteries contained in vehicles or engines must be securely fastened in the battery holder of the vehicle or engine, and be protected in such a manner as to prevent damage and short circuits (e.g.,

by the use of non-conductive caps that entirely cover the terminals). Lithium batteries must be of a type that have successfully passed each test in the UN Manual of Tests and Criteria as specified in § 173.185, unless approved by the Associate Administrator. Equipment, other than vehicles or engines, containing lithium batteries must be transported in accordance with § 173.185.

* * * * *

■ 30. In § 173.222, the section heading, paragraphs (a), (b)(1), (b)(2), (c) introductory text and (d) are revised to read as follows:

§ 173.222 Dangerous goods in machinery or apparatus.

* * * * *

(a) If the machinery or apparatus contains more than one hazardous material, the materials must not be capable of reacting dangerously together.

(b) * * *

(1) Damage to the receptacles containing the hazardous materials during transport is unlikely. However, in the event of damage to the receptacles containing the hazardous materials, no leakage of the hazardous materials from the machinery or apparatus is possible. A leakproof liner may be used to satisfy this requirement.

(2) Receptacles containing hazardous materials must be secured and cushioned so as to prevent their breakage or leakage and so as to control their movement within the machinery or apparatus during normal conditions of transportation. Cushioning material must not react dangerously with the content of the receptacles. Any leakage of the contents must not substantially impair the protective properties of the cushioning material.

* * * * *

(c) The total net quantity of hazardous materials contained in one item of machinery or apparatus must not exceed the following:

* * * * *

(d) Except for transportation by aircraft, when a package contains hazardous materials in two or more of the categories listed in paragraphs (c)(1) through (c)(3) of this section the total quantity required by § 172.202(c) of this subchapter to be entered on the shipping paper must be either the aggregate quantity, or the estimated quantity, of all hazardous materials, expressed as net mass.

■ 31. In § 173.224, in paragraph (b)(7), in the Self-Reactive Materials Table, a new entry is added in appropriate alphabetical order to read as follows:

§ 173.224 Packaging and control and emergency temperatures for self-reactive materials.

* * * * *

(b) * * *

(7) * * *

SELF-REACTIVE MATERIALS TABLE

Self-reactive substance	Identification No.	Concentration—(%)	Packing method	Control temperature—(°C)	Emergency temperature	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Acetone-pyrogallol copolymer 2-diazo-1-naphthol-5-sulphonate	3228	100	OP8			
*	*	*	*	*	*	*

* * * * *

■ 32. A new section § 173.230 is added in subpart E to read as follows:

§ 173.230 Fuel cell cartridges containing flammable liquids.

(a) A fuel cell cartridge is a container that stores fuel for controlled discharge into fuel cell powered equipment through a valve. The cartridge must be designed and constructed to prevent the fuel from leaking during normal conditions of transportation and be free of electric charge generating components.

(b) Fuel cell cartridges containing flammable liquids, including methanol or methanol/water solutions, must conform to the following:

(1) The fuel cell cartridge design type without its packaging must be shown to pass an internal pressure test at a pressure of 15 psig (100 kPa);

(2) Fuel cell cartridges must be packaged in rigid outer packagings which meet the requirements of part 178 at the Packing Group II performance level and conform to the general packaging requirements of subpart B of part 173.

(c) Fuel cell cartridges packed in or with equipment are excepted from the packaging requirements in paragraph (b)(2) of this section if the cartridges are packed in a strong outer packaging conforming to the requirements of §§ 173.24 and 173.24a. For cartridges installed in equipment, the equipment may be considered the outer packaging if it provides an equivalent level of protection. The packaging need not conform to performance requirements of part 178 of this subchapter. The cartridges must be protected against damage that may be caused by the movement or placement of the equipment and the cartridges within the outer packaging.

■ 33. In § 173.301, paragraph (o) is revised to read as follows:

§ 173.301 General requirements for shipment of compressed gases and other hazardous materials in cylinders, UN pressure receptacles and spherical pressure vessels.

* * * * *

(o) *Cylinders made of aluminum alloy 6351–T6.* A DOT 3AL cylinder manufactured of aluminum alloy 6351–T6 may not be filled and offered for transportation or transported with pyrophoric gases. The use of UN cylinders manufactured of aluminum alloy 6351–T6 is prohibited.

* * * * *

■ 34. In § 173.306, paragraph (i) is revised and a new paragraph (j) is added to read as follows:

§ 173.306 Limited quantities of compressed gases.

* * * * *

(i) *Aerosols and receptacles small, containing gas with a capacity of less than 50 mL.* Aerosols, as defined in § 171.8 of this subchapter, and receptacles small, containing gas, with a capacity not exceeding 50 mL (1.7 oz.) and with a pressure not exceeding 970 kPa (141 psig) at 55 °C (131 °F), containing no hazardous materials other than a Division 2.2 gas, are not subject to the requirements of this subchapter. The pressure limit may be increased to 2000 kPa (290 psig) at 55 °C (131 °F) provided the aerosols are transported in outer packages that conform to the packaging requirements of Subpart B of

this part. This paragraph (i) does not apply to a self-defense spray (e.g., pepper spray).

(j) For additional exceptions, also see § 173.307.

Appendix H to Part 173 [Amended]

■ 35. In Appendix H to Part 173, under heading 3. Apparatus, introductory text, the first occurrence of the wording ''UN Manual of Test and Criteria,'' is removed and the wording ''UN Manual of Test and Criteria (IBR, see § 171.7 of this subchapter),'' is added in its place and under heading 5. Procedure, in paragraph (h), the wording ''60.5 °C (141 °F)'' is removed and the wording ''60 °C (140 °F)'' is added each place it appears.

PART 175—CARRIAGE BY AIRCRAFT

■ 36. The authority citation for part 175 continues to read as follows:

Authority: 49 U.S.C. 5101–5128; 44701; 49 CFR 1.53.

■ 37. In § 175.10, in paragraph (a)(2), the first sentence is revised to read as follows:

§ 175.10 Exceptions for passengers, crewmembers, and air operators.

* * * * *

(a) * * *

(2) One packet of safety matches or a lighter intended for use by an individual when carried on one's person or in carry-on baggage only. * * *

* * * * *

■ 38. In § 175.78, paragraph (c)(4) is revised to read as follows:

§ 175.78 Stowage compatibility of cargo.

* * * * *

(c) * * *

(4) Note 1. ''Note 1'' at the intersection of a row and column means the following:

(i) Only Division 1.4, Compatibility Group S, explosives are permitted to be transported aboard a passenger aircraft. Only certain Division 1.3, Compatibility Groups C and G, and Division 1.4, Compatibility Groups B, C, D, E, G and S, explosives may be transported aboard a cargo aircraft.

(ii) Division 1.4 explosives in Compatibility Group S may be stowed with Division 1.3 and 1.4 explosives in compatibility groups as permitted aboard aircraft under paragraph (c)(4)(i) above.

(iii) Except as otherwise provided in this Note, explosives of different compatibility groups may be stowed together whether or not they belong to the same division.

(iv) Division 1.4B and Division 1.3 explosives may not be stowed together. Division 1.4B explosives must be loaded into separate unit load devices and, when stowed aboard the aircraft, the unit load devices must be separated by other cargo with a minimum separation of 2 m (6.5 feet). When not loaded in unit load devices, Division 1.4B and Division 1.3 explosives must be loaded into different, non-adjacent loading positions and separated by other cargo with a minimum separation of 2 m (6.5 feet).

* * * * *

PART 176—CARRIAGE BY VESSEL

■ 39. The authority citation for part 176 continues to read as follows:

Authority: 49 U.S.C. 5101–5128; 49 CFR 1.53.

§ 176.76 [Amended]

■ 40. In § 176.76, in paragraph (f)(2), the wording ''141 °F'' is removed and the wording ''60 °C (140 °F)'' is added in its place.

■ 41. In § 176.83, paragraph (a)(4) is revised to read as follows:

§ 176.83 Segregation.

(a) * * *

(4) Segregation is not required:

(i) Between hazardous materials of different classes which comprise the same substance but vary only in their water content (for example, sodium sulfide in Division 4.2 or Class 8) or quantity for Class 7 materials; or

(ii) Between hazardous materials of different classes which comprise a group of substances that do not react dangerously with each other. The following materials are grouped by compatibility:

(A) Hydrogen peroxide, aqueous solutions *with not less than 8 percent but less than 20 percent hydrogen peroxide (stabilized as necessary)*; Hydrogen peroxide, aqueous solutions *with not less than 20 percent but not more than 40 percent hydrogen peroxide;* Hydrogen peroxide, aqueous solutions *with more than 40 percent but not more than 60 percent hydrogen peroxide;* Hydrogen peroxide and peroxyacetic acid mixtures, stabilized *with acids, water and not more than 5 percent peroxyacetic acid;* Organic peroxide type D, liquid; Organic peroxide type E, liquid; Organic peroxide type F, liquid; and

(B) Dichlorosilane, Silicon tetrachloride, and Trichlorosilane.

* * * * *

■ 42. In § 176.84, in paragraph (b), in the Table of provisions, Codes ''22,'' ''23,'' ''26,'' ''27,'' ''52,'' ''53'' and ''109'' are revised, a new Code ''144'' is added in appropriate numerical order, and following the table, a new note ''2'' is added to read as follows:

§ 176.84 Other requirements for stowage and segregation for cargo vessels and passenger vessels.

* * * * *

(b) * * *

Code	Provisions
*	* * * *
22	Segregation same as for flammable liquids if flash point is below 60 °C (140 °F).
23	Segregation same as for flammable liquids if flash point is between 23 °C (73 °F) and 60 °C (140 °F).
*	* * * *
26	Stow ''away from'' acids.[2]
27	Stow ''away from'' alkaline compounds.[2]
*	* * * *
52	Stow ''separated from'' acids.[1, 2]
53	Stow ''separated from'' alkaline compounds.[2]
*	* * * *
109	Label as a flammable liquid if flash point is 60 °C (140 °F) or below.
*	* * * *
144	When stowed under deck, mechanical ventilation shall be in accordance with SOLAS, Chapter II–2/Regulation 19 (IBR, see § 171.7 of this subchapter) for flammable liquids with flashpoint below 23 °C (73 °F).
*	* * * *

* * * * *

[2] Class 8 materials in PG II or III that otherwise are required to be segregated from one another may be transported in the same cargo transport unit, whether in the same packaging or not, provided the substances do not react dangerously with each other to cause combustion and/or evolution of considerable heat, or of flammable, toxic or asphyxiant gases, or the formation of corrosive or unstable substances; and the package does not contain more than 30 L (7.8 gallons) for liquids or 30 kg (66 lbs.) for solids.

PART 178—SPECIFICATIONS FOR PACKAGINGS

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

Authority: 49 U.S.C. 5101–5128; 49 CFR 1.53.

■ 44. In § 178.274, paragraph (j)(6) is revised to read as follows:

§ 178.274 Specifications for UN portable tanks.

* * * * *

(j) * * *

(6) Effective January 1, 2008, each new UN portable tank design type meeting the definition of ''container'' in

the Convention for Safe Containers (CSC) (see 49 CFR 450.3(a)(2)) must be subjected to the dynamic longitudinal impact test prescribed in Part IV, Section 40 of the UN Manual of Tests and Criteria (see IBR, § 171.7 of this subchapter). A UN portable tank design type impact-tested prior to January 1, 2008, in accordance with the requirements of this section in effect on October 1, 2005, need not be retested. UN portable tanks used for the dedicated transportation of ''Helium, refrigerated liquid,'' UN1963, and ''Hydrogen, refrigerated liquid,'' UN1966, that are marked ''NOT FOR RAIL TRANSPORT'' in letters of a minimum height of 10 cm (4 inches) on at least two sides of the portable tank are excepted from the dynamic longitudinal impact test.

* * * * *

§ 178.602 [Amended]

■ 45. In § 178.602, in paragraph (b), the second sentence is amended by adding the wording ''containing solids'' after the word ''Bags.''

■ 46. In § 178.810, paragraph (b) is revised to read as follows:

§ 178.810 Drop test.

* * * * *

(b) *Special preparation for the drop test.* (1) Metal, rigid plastic, and composite IBCs intended to contain solids must be filled to not less than 95 percent of their maximum capacity, or if intended to contain liquids, to not less than 98 percent of their maximum capacity. Pressure relief devices must be removed and their apertures plugged or rendered inoperative.

(2) Fiberboard and wooden IBCs must be filled with a solid material to not less than 95 percent of their maximum capacity; the contents must be evenly distributed.

(3) Flexible IBCs must be filled to the maximum permissible gross mass; the contents must be evenly distributed.

(4) Rigid plastic IBCs and composite IBCs with plastic inner receptacles must be conditioned for testing by reducing the temperature of the packaging and its contents to −18 °C (0 °F) or lower. Test liquids must be kept in the liquid state, if necessary, by the addition of anti-freeze. Water/anti-freeze solutions with a minimum specific gravity of 0.95 for testing at −18 °C (0 °F) or lower are considered acceptable test liquids, and may be considered equivalent to water for test purposes. IBCs conditioned in this way are not required to be conditioned in accordance with § 178.802.

* * * * *

PART 180—CONTINUING QUALIFICATION AND MAINTENANCE OF PACKAGINGS

■ 47. The authority citation for part 180 continues to read as follows:

Authority: 49 U.S.C. 5101–5128; 49 CFR 1.53.

■ 48. In § 180.213, paragraph (d) is revised to read as follows:

§ 180.213 Requalification markings.

* * * * *

(d) *Requalification markings.* Each cylinder successfully passing requalification must be marked with the RIN set in a square pattern, between the month and year of the requalification date. The first character of the RIN must appear in the upper left corner of the square pattern; the second in the upper right; the third in the lower right; and the fourth in the lower left. Example: A cylinder requalified in September 2006, and approved by a person who has been issued RIN ''A123'', would be marked plainly and permanently into the metal of the cylinder in accordance with location requirements of the cylinder specification or on a metal plate permanently secured to the cylinder in accordance with paragraph (b) of this section. An example of the markings prescribed in this paragraph (d) is as follows:

A1
9 06 X
32

Where:

''9'' is the month of requalification
''A123'' is the RIN
''06'' is the year of requalification, and
''X'' represents the symbols described in paragraphs (f)(2) through (f)(8) of this section.

(1) Upon written request, variation from the marking requirement may be approved by the Associate Administrator.

(2) Exception. A cylinder subject to the requirements of § 173.301(l) of this subchapter may not be marked with a RIN.

* * * * *

■ 49. In § 180.352, paragraphs (b) introductory text, (b)(1) and (g) are revised to read as follows:

§ 180.352 Requirements for retest and inspection of IBCs.

* * * * *

(b) *Test and inspections for metal, rigid plastic, and composite IBCs.* Each IBC is subject to the following test and inspections:

(1) Each IBC intended to contain solids that are loaded or discharged under pressure or intended to contain liquids must be tested in accordance with the leakproofness test prescribed in § 178.813 of this subchapter prior to its first use in transportation and every 2.5 years thereafter, starting from the date of manufacture or the date of a repair conforming to paragraph (d)(1) of this section. For this test, the IBC is not required to have its closures fitted.

* * * * *

(g) *Record retention.* (1) The owner or lessee of the IBC must keep records of periodic retests, initial and periodic inspections, and tests performed on the IBC if it has been repaired or remanufactured.

(2) Records must include design types and packaging specifications, test and inspection dates, name and address of test and inspection facilities, names or name of any persons conducting test or inspections, and test or inspection specifics and results.

(3) Records must be kept for each packaging at each location where periodic tests are conducted, until such tests are successfully performed again or for at least 2.5 years from the date of the last test. These records must be made available for inspection by a representative of the Department on request.

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Thomas J. Barrett,

Administrator.

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