



This document is scheduled to be published in the Federal Register on 01/21/2016 and available online at <http://federalregister.gov/a/2016-00780>, and on FDsys.gov

Billing Code: 4910-60-P

DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

49 CFR Parts 107, 171, 172, 173, 174, 176, 177, 178, and 180

[Docket No. PHMSA-2013-0042 (HM-233F)]

RIN 2137-AF00

Hazardous Materials: Adoption of Special Permits (MAP-21) (RRR)

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

ACTION: Final Rule.

SUMMARY: As required by the Moving Ahead for Progress in the 21st Century Act (MAP-21), the Pipeline and Hazardous Materials Safety Administration is amending the Hazardous Materials Regulations to adopt provisions contained in certain widely-used or long-standing special permits that have an established safety record. The adopted amendments are intended to provide wider access to the regulatory flexibility offered in special permits and eliminate the need for numerous renewal requests. The adopted amendments will also reduce paperwork burdens and facilitate commerce while maintaining an appropriate level of safety. PHMSA conducted an extensive analysis of all active special permits and codified, as appropriate, those special permits deemed suitable in this rulemaking.

DATES: Effective Date: The final rule will become effective on **[INSERT DATE 30 DAYS FROM PUBLICATION IN THE FEDERAL REGISTER]**.

Voluntary compliance date: PHMSA is authorizing voluntary compliance beginning **[INSERT DATE 30 DAYS FROM PUBLICATION IN THE FEDERAL REGISTER]**.

Delayed compliance date: Unless otherwise specified, compliance with the amendments adopted in this final rule is required beginning January 23, 2017.

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I. Executive Summary

The Pipeline and Hazardous Materials Safety Administration (PHMSA) is amending the Hazardous Materials Regulations (HMR; 49 CFR Parts 171–180) by adopting requirements contained in 96 existing special permits (SP). These amendments are based on our review of all active SPs as of January 1, 2013, in which we originally identified 98 SPs containing requirements that appear suitable for adoption into the HMR as regulations of general applicability. Other SPs (1,070) were not proposed for adoption into the HMR because we concluded they contain requirements which (1) would not have, or are being applied in a manner which would not have, broad applicability; or (2) have already been adopted into the HMR, are covered by authorizations in the HMR, are being addressed in other rulemakings, or were removed from consideration after receiving public comments submitted in response to the January 30, 2015, notice of proposed rulemaking (NPRM) in this proceeding.

In the NPRM published in the Federal Register on January 30, 2015 [80 FR 5339], we encouraged all interested parties, particularly the holders of currently active SPs, to submit comments regarding the SPs we proposed to adopt into the HMR, the SPs we did not propose to adopt into the HMR, and the impacts, including costs and benefits, of the special permits proposed for incorporation.

II. Background

PHMSA is amending the Hazardous Materials Regulations (HMR; 49 CFR Parts 171–180) by adopting certain requirements based on existing SPs issued by PHMSA under 49 CFR Part 107, Subpart B (§§ 107.101 to 107.127). SPs set forth alternative requirements—or a variance—to the requirements in the HMR in a way that achieves a safety level at least equal to the safety level required under the regulations, or, when the regulations do not establish a safety level, that is consistent with the public interest. Congress expressly authorized the Secretary of Transportation to issue these variances in the Hazardous Materials Transportation Act of 1975 (49 U.S.C. 5109) as amended.

On July 6, 2013, President Obama signed legislation entitled “Moving Ahead for Progress in the 21st Century Act (MAP-21).” Section 33012 of this legislation required PHMSA to review and analyze SPs that have been in continuous effect for a 10-year period to determine which ones may be codified into the HMR.¹ The legislation also required PHMSA to issue regulations to adopt any SPs identified as appropriate for adoption in a final rule by October 1, 2015. The legislation provided the following factors to consider during review and analysis to determine suitability for adoption into the HMR:

- (1) The safety record of the hazardous materials (hazmat) transported under the SP;
- (2) The application of a SP;
- (3) The suitability of the provisions in the SP for incorporation into the hazmat regulations; and
- (4) Rulemaking activity in related areas.

Prior to the passing of the MAP-21 legislation, PHMSA completed numerous rulemaking actions, through a comprehensive and refined approach, to convert long-standing SPs with an

¹ Although MAP-21 only required PHMSA evaluate SPs that had been in continuous effect for a 10-year period, PHMSA reviewed all active SPs as of January 1, 2013.

established safety record into the HMR. Following the passage of the MAP-21 legislation, PHMSA modified its approach to align with the requirements of this legislation. Specifically, PHMSA established terms of reference and baseline criteria for the review of long-standing SPs, created tracking tools to monitor progress, and adopted a methodology and timeline to evaluate SPs.

The January 30, 2015 NPRM provided an overview of the SP Program to date, a detailed review of the requirements of MAP-21 with regard to this initiative, and a comprehensive explanation of the rationale used to evaluate these SPs both prior to and after the implementation of MAP-21. Furthermore, the NPRM described in detail the SPs that were deemed not suitable for adoption into the HMR along with the corresponding reasoning, and proposed the adoption into the HMR of SPs that were deemed suitable through this review. The amendments adopted from the SPs in this final rule have broad applicability, fit into the scope of the HMR, increase flexibility in transportation, and provide an equivalent level of safety to that of the current regulations.

III. Overview

Historically, PHMSA has reviewed widely used or long-standing special permits and adopted those that have an established safety record into the HMR. Since 2008, PHMSA has adopted 94 special permits under various rulemakings into the HMR, reducing the number of holders by 13,947. Rulemakings that stemmed from a special permit are noted in Table 1.

Table 1: Previous Rulemaking Actions²				
Docket Number	Title	Purpose	Number of permits	Holders

² This table represents only published rulemakings since January 1, 2008.

PHMSA–2006–25910 (HM–218E)	Miscellaneous Cargo Tank Motor Vehicle and Cylinder Issues; Petitions for Rulemaking	Amended the HMR to revise certain requirements applicable to the manufacture, maintenance, and use of DOT and MC specification cargo tank motor vehicles, DOT specification cylinders and UN pressure receptacles.	2	15
PHMSA–2008–0005 (HM-215J)	Revision to Requirements for the Transportation of Batteries and Battery-Powered Devices; and Harmonization with the UN Recommendations, IMDG Code, and ICAO Technical Instructions	Amended the HMR to maintain alignment with international standards by adopting various amendments, including changes to proper shipping names, hazard classes, packing groups, special provisions, packaging authorizations, air transport quantity limitations, and vessel stowage requirements.	3	6
PHMSA–2009–0151 (HM-218F)	Miscellaneous Amendments	Amended the HMR to make miscellaneous revisions to update and clarify certain regulatory requirements.	1	1
PHMSA–2009–0289 (HM-233A)	Incorporation of SPs into Regulations	Amended the HMR to adopt provisions contained in certain widely-used or long-standing SPs that have an established safety record.	44	510
PHMSA–2010–0017 (HM–245)	Incorporation of Cargo Tank SPs	Amended the HMR to adopt provisions contained in certain widely-used or long-standing cargo tank SPs that are granted to multiple parties and have established safety records.	6	Over 10,000
PHMSA–2010–0018 (HM–216B)	Incorporating Rail SPs	Amended the HMR to adopt SPs which authorized an alternative tank car qualification program, acceptance of shipping paper information by voice or electronic data interchange, provide alternative rail car segregation requirements for explosives, alternative tank car design requirements, and alternative unloading provisions for coupled tank cars.	7	250
PHMSA–2010–0201 HM-254	Approval and Communication Requirements for the Safe Transportation of Airbag Inflators, Airbag Modules, and Seat-belt Pretensioners	Amended the HMR applicable to airbag inflators, airbag modules and seat-belt pretensioners by authorizing an alternative review and verification process for these devices, and eliminating the current requirements to have hundreds of these devices approved by PHMSA prior to shipment.	2	2,131
PHMSA 2011-0138 (HM 218G)	Miscellaneous Amendments (RRR)	Amended the HMR by adopting SPs to authorize the transportation by motor vehicle of certain regulated medical wastes, designated as sharps, in non-DOT specification containers fitted into wheeled racks.	1	1
PHMSA–2011–0142 (HM–219)	Miscellaneous Petitions for Rulemaking (RRR)	Amended the HMR to no longer require re-application for a SP to place the Dangerous Cargo Manifest in locations designated by the master of the vessel besides “on or near the bridge” while the vessel is docked in a United States port while cargo unloading, loading, or handling operations are underway and the bridge is unmanned.	1	1

PHMSA– 2011–0158 (HM–233C)	Incorporation of Certain SPs and Competent Authorities into Regulations	Amended the HMR to adopt provisions contained in several SPs that provide greater regulatory flexibility. The SPs in this action addressed a variety of alternative provisions, including alternative packaging authorizations for specific hazardous materials (HM), and would eliminate approval requirements for variances in the manufacture of fiberboard packagings.	18	466
PHMSA- 2011-0345 (HM-233D) (NPRM)	Requirements for the Safe Transportation of Bulk Explosives (RRR)	Proposes to amend the HMR by establishing standards for the safe transportation of bulk explosives. This rulemaking would also be responsive to two petitions (P-1557, P-1583).	9	566
Total			94	13,947

A. MAP-21 Legislation

Section 33012 of the MAP-21 legislation revised section 5117 (f) of the Federal Hazardous Materials Transportation Law. As a result of this legislation, PHMSA was required to review and analyze SPs that have been in effect for 10 years or more and determine which could be converted into regulations. Additionally, PHMSA was required to set parameters for the review and issue regulations to adopt any SPs identified as appropriate for adoption in a final rule by October 1, 2015. Following publication of this final rule, this process would be completed annually to ensure appropriate SPs are converted into the HMR on a consistent basis.

The legislation also required PHMSA to address other issues related to the SP and approvals regulations and program processes. Specifically, PHMSA is required to issue regulations on standard operating procedures to support administration of the SP and approval programs. This requirement is being addressed under Docket No. PHMSA 2012-0260 (HM-233E).

Table 2 summarizes the MAP-21 requirements related to the SP program, the corresponding rulemaking actions, and required completion dates:

Table 2: MAP-21 Summary

MAP-21 Citation	MAP-21 Requirement	Docket Number	Required Completion Date
Sec. 33012 (a)	Rulemaking mandate. PHMSA shall issue regulations that establish: (1) Standard operating procedures to support administration of the SP and approval programs; and (2) Objective criteria to support the evaluation of SP and approval applications.	PHMSA 2012-0260 (HM-233E)	Final rule due by 10/01/2014
(b)	Initial review and analysis of SPs that have been in continuous effect for a 10-year period to determine which ones may be converted into the hazmat regulations. Factors to consider: (1) The safety record of hazmat transported under the SP; (2) The application of a SP; (3) The suitability of provisions in the SP for incorporation into the hazmat regulations; and (4) Rulemaking activity in related areas.	PHMSA-2013-0042 (HM-233F)	Review and analysis due by 10/01/2013
(b)	Rulemaking mandate. Issue regulations to incorporate into the hazmat regulations any SPs identified in the initial review and analysis that PHMSA determines are appropriate for incorporation based on the review factors.	PHMSA-2013-0042 (HM-233F)	Final rule due by 10/01/2015
(c)	Ongoing review and analysis of SPs. Not later than 1 year after the date on which a SP has been in continuous effect for a 10-year period, PHMSA shall conduct a review and analysis of that SP to determine whether it may be converted into the hazmat regulations. Factors to consider: (1) The safety record of hazmat transported under the SP; (2) The application of a SP; (3) The suitability of provisions in the SP for incorporation into the hazmat regulations; and (4) Rulemaking activity in related areas.	Continuous future rulemaking actions on a yearly basis	Review and analysis due by 10/01/2015 and to be completed on an annual basis
(d)	Rulemaking mandate. After completing the review and analysis of SPs that have been in continuous effect for a 10-year period, PHMSA shall either institute a rulemaking to incorporate the SP into the hazmat regulations or publish in the Federal Register its justification for why the SP is not appropriate for incorporation into the regulations.	Continuous future rulemaking actions on a yearly basis	Final rule or notice of no rulemaking decision due by 10/01/2016

B. SP Conversion Project Methodology

As previously stated, PHMSA has routinely analyzed, evaluated, and adopted SPs into the HMR through established procedures for decades. However, the specific provisions contained in MAP-21 necessitated PHMSA to modify and formalize its approach.

The following table summarizes the different phases of the Special Permits Conversion Project (SPCP). Specifically, this table briefly discusses the efforts of each phase of the project and how the entire project was divided into the two primary stages of analysis and rulemaking. Each phase of the SPCP is described in Table 3.

Table 3: SPCP Methodology

Phase		Description of Action
Analysis	Phase 1: Development of Methodology	The SPCP Management team developed a methodology to consistently evaluate SPs, a system to track this analysis, sub-teams and sub-topic areas used to group similar SPs to be reviewed by the appropriate subject matter experts, and timelines and milestones.
	Phase 2: Preliminary Analysis	An initial review of all SPs was conducted. SPs were divided by topics and sub-topics and each transportation regulations specialist was assigned a grouping. These specialists reviewed each permit and made a determination as to an SP’s suitability for adoption into the HMR based on guidance provided by the SPCP Management team.
	Phase 3: Mentor Review	The members of the SPCP Management were assigned topics and conducted a second review of the SPs deemed either not suitable or flagged for further review.
	Phase 4: Team Analysis	PHMSA then established rulemaking teams for each topic composed of a team leader, mentor, and team members from each PHMSA Division and our modal partners. These teams then conducted a second review of those SPs deemed suitable and those flagged for follow-up.
Rulemaking	Phase 5: Drafting	For SPs deemed suitable, the team drafted regulatory text along with preamble language justifying inclusion into the HMR. The finalized draft of each topic was then submitted to the SPCP Management team for final review.
	Phase 6: Consolidate Rulemaking	Following review by the SPCP Management team, the topic rulemakings were then combined into a master draft along with additional preamble language, regulatory analysis, and information collection activities.
	Phase 7: Rulemaking Coordination	The master draft created was then vetted throughout the agency and with our modal partners. In addition, the rulemaking was coordinated with the Office of the Secretary of Transportation and the Office of Management and Budget.
	Phase 8: Rulemaking Publication	Following concurrence from all entities, PHMSA submitted the NPRM to the Federal Register for publication.
	Phase 9: Final Analysis and Coordination	The draft Final Rule was then vetted throughout the agency and with our modal partners. In addition, the rulemaking was coordinated with the Office of the Secretary of Transportation and the Office of Management and Budget.
	Phase 10:	Following concurrence from all entities, PHMSA submitted this Final Rule

	Final Rulemaking Publication	to the Federal Register for publication.
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PHMSA grouped each special permit into one of six topic areas, based on the utility of the special permit. These topic areas were established to reflect the main utility and purpose of the SP. These topic areas of the SPs, an overview of each topic area, and the affected number of SP holders are detailed in Table 4.

TABLE 4: TOPIC OVERVIEW		
Topic	Overview	 Holders [Total # in grouping]
Cylinders - General	The SPs pertaining to cylinders that are adopted into the HMR in this final rule provide exceptions to existing general cylinder requirements.	721
Cylinders – NDT/Aerosols ³	The SPs pertaining to acoustic emission (AE) and ultrasonic examination (UE) testing of cylinders and to aerosols that are adopted into the HMR in this final rule provide exceptions to existing cylinder requirements specific to cylinder non-destructive testing (NDT) and aerosols.	396
Cargo Tanks/Rail Cars/Portable Tanks	The SPs pertaining to cargo tanks, rail cars, and portable tanks that are adopted into the HMR in this final rule provide exceptions to existing cargo tanks, rail cars, and portable tanks requirements.	321
Operational Air/Vessel	The SPs pertaining to operational issues for aircraft or vessel transportation that are adopted	207

³ For the purposes of this rulemaking Non-Destructive Testing (NDT) includes Ultrasonic Examination (UE) and Acoustic Emission (AE).

	into the HMR in this final rule provide exceptions to existing requirements for vessel and aircraft shipments.	
Operational Highway/Rail/Shipper/Other	The SPs pertaining to operational issues for highway or rail transport, shipper requirements, and other general areas that are adopted into the HMR in this final rule provide exceptions to existing highway and rail operations, shipper, and other general requirements.	1,226
Non-Bulk Packaging Specifications/IBCs	The SPs pertaining to non-bulk packagings, IBCs, and packaging specifications that are adopted into the HMR in this final rule provide certain exceptions to the packaging specification requirements.	820
	Total	3,691

C. Petitions for Rulemaking

PHMSA considered several petitions for rulemaking submitted in accordance with § 106.105. The petitions are discussed as follows:

P-1607

The Council on the Safe Transportation of Hazardous Articles (COSTHA) submitted a petition for rulemaking under P-1607 which PHMSA accepted and proposed in the January 30, 2015 NPRM. The purpose of this petition for rulemaking was to adopt the provisions of SP 11458 authorizing display packs of consumer commodities that exceed the 30 kg gross weight limitation prescribed for limited quantity packages. See the discussions in §§ 171.8 and 173.56 under the “Operational Highway/Rail/Shipper/Other” heading of this rulemaking.

P-1608

The Truck Trailer Manufacturers Association (TTMA) submitted a petition for rulemaking under P-1608 to adopt the provisions of SP 11903 into the HMR. Under P-1608, TTMA petitioned that PHMSA adopt standards for the construction and use of fiber reinforced plastic (FRP) cargo tanks. Currently, these tanks are constructed under SP 11903 and used under party status to SP 9166. Other special permits also address these standards but PHMSA did not propose to adopt them in the NPRM because a uniform standard for FRP cargo tanks that is ready for adoption does not exist. However, PHMSA is working to develop a uniform standard for FRP cargo tanks, which we will address in a future rulemaking.

P-1610

COSTHA submitted a petition for rulemaking under P-1610 to adopt the provisions of SP 11110 into the HMR. This SP authorizes cargo aircraft operators to stow Division 1.4S and Class 8, PG III materials in inaccessible cargo locations in excess of the limitations specified in § 175.75(c). This petition has been accepted by PHMSA for consideration in a future rulemaking as more time is needed to research the potential impact of changes to § 175.75 and to coordinate this review with the appropriate parties, including our modal partners.

P-1611

COSTHA submitted a petition for rulemaking under P-1611 to adopt the provisions of SP 11470 into the HMR. This SP authorizes the transportation in commerce of shrink-wrapped pallets containing packages of waste ORM-D materials with the word "WASTE" marked on the

outside of the pallet instead of each individual box. This petition was accepted by PHMSA and is being adopted as proposed in this final rule. See the discussion in § 173.12 under the “Operational Highway/Rail/Shipper/Other” heading of this preamble.

D. SP Evaluation Results

PHMSA is committed to the SP adoption process established by Congress in MAP-21. To ensure that changes made under this action are as efficient and effective as possible, PHMSA solicited input from its stakeholders. We used several tables throughout the NPRM to identify SPs suitable for adoption and those that were deemed not suitable. As required by MAP-21, the initial review and analysis of SPs considered the following factors:

- The safety record of hazardous materials transported under the SP;
- The application of a SP;
- The suitability of provisions in the SP for adoption into the HMR; and
- Rulemaking activity in related areas.

Based on these factors, PHMSA developed and assigned codes representing its reasoning for adopting or not adopting certain SPs into the regulations. Table 5 explains each code.

Table 5: SPCP Code Key		
Code	Title	Explanation
Code 1	Suitable for Adoption	SPs suitable for adoption.
Code 2	Not Suitable for Adoption: The application of the SP.	SPs not suitable because of the manner in which applied. Because the purpose of the MAP-21 directive was to reduce need for SPs where widely-used, many of these SPs were not considered suitable for adoption because of their application; i.e., they were not widely-used, were too technical in nature, or were too specific to a SP holder. This Code was applied to both single and multiple holders of SPs.
Code 3	Not Suitable for Adoption: The suitability of the provision in the SP for adoption into the HMR.	SPs not suitable for adoption because of the lack of broad applicability. Similar to Code 2, many of these SPs were not considered suitable for adoption because of the specificity of the SP.

		The terms of these SPs often included an inability to provide the same exception in a broad manner applicable to certain geographical locations or safety controls. This Code was also applied to both single and multiple holders of SPs.
Code 4	Not Suitable for Adoption: Rulemaking activity in related areas.	SPs being addressed in other rulemakings.
Code 5	Already adopted or otherwise covered under current regulations.	SPs already adopted or authorizations already specified in the current HMR. For example, these SPs will be terminated as they are no longer necessary since the provisions contained within have already been adopted or have been covered under current regulations.

The SPCP evaluated 1,168 permits that represented 3,691 holders of SPs that were active on January 1, 2013. Once the evaluation segment of the SPCP was completed, PHMSA identified 98 active SPs that were suitable for adoption in this proceeding. Since that time, SP-14422 has become no longer active and its provisions are not adopted in this final rule. Additionally, SP 4850 is not adopted in this final rule based on concerns that certain elements in its codification no longer communicated the exceptions from the HMR provided by the SP. Thus, we believe any additional burden not proposed in the January 30, 2015 NPRM would require notice and comment

Adoption of the 96 SPs in this final rule will impact 832 SP holders as indicated in Table 6. The SPs adopted in this rulemaking represent an approximate 8% reduction in the number of active SPs and an approximate 23% reduction in the number of holders of those SPs as indicated in Table 6.

Table 6: SPCP Impact		
	SPs	Holders
SPs Adopted in this Rulemaking Action	96	832
Total Number Evaluated	1,168	3,691
Percent Reduction	8.22%	22.54%

When combined with previous regulatory efforts to adopt SPs into the HMR, the impact is increased to 190 total SPs adopted since 2008, affecting 14,779 holders of SPs as indicated in Table 7.

Table 7: SPs Adopted and Affected Holders		
	SPs	 Holders
SPs Eliminated in Previous Rulemaking actions since 2008	94	13,947
SPs Adopted in this Rulemaking Action	96	832
Total	190	14,779

It is PHMSA’s intent to annually review all SPs that have been in effect for more than 10 years. Further, PHMSA’s ongoing review and analysis of SPs will use the same methodology and tools as in this proceeding. PHMSA anticipates that future analysis and review will be more streamlined due to the reduction in the number of SPs to be evaluated and the experience gained through this evaluation.

E. SPs Suitable for Adoption

The original analysis phase of the SPCP NPRM identified 98 SPs (728 holders) that were deemed suitable for adoption. Further, the analysis phase identified 1,070 SPs that were deemed not suitable for adoption. Please see the January 30, 2015 NPRM for more information on the SPs deemed not suitable, their assigned topic area, a summary of the permit, the number of SP holders, and each corresponding denial code. In this final rule, Table 8 summarizes the SPs deemed suitable, their assigned topic area, a summary of the permit, and the number of holders of SPs. The difference in the number of holders in the NPRM (728) and this final rule (832) are due to seven SPs proposed for adoption in the NPRM that are not being adopted in this final rule and four SPs that were not proposed for adoption in the NPRM that are being adopted in this

final rule. All suitable SPs (96) ultimately adopted were deemed to be Code 1 and are adopted in this final rule.

Table 8: SPs Suitable for Proposed Adoption

Permit Number	Category	Summary	 Holders
		Cylinders General	
SP6530	Cylinders General	Authorizes transportation in commerce of hydrogen and mixtures of hydrogen with helium, argon or nitrogen, in certain cylinders filled to 110% of their marked service pressures.	26
SP8074	Cylinders General	Authorizes transportation in commerce of certain flammable and non-flammable gases in DOT specification 3E cylinders measuring 2 inches in diameter by 12 inches long without a safety relief device.	5
SP12084	Cylinders General	Authorizes use of certain DOT specification 4B, 4BA, or 4BW cylinders, which are protected externally by a suitable corrosion-resistant coating (such as galvanizing or painting), for transportation in commerce of certain gases when retested and marked in accordance with the requirements specified in §180.209(e). In lieu of a 5 year periodic hydrostatic test, or testing in accordance with § 173.213(c)(2), the prescribed cylinders may be retested and marked in accordance with § 180.209(e).	1
SP12301	Cylinders General	Authorizes transportation in commerce of chloropicrin and methyl bromide mixtures in a DOT specification 4BW cylinder having a capacity greater than that specified in § 173.193(b).	8
SP12782	Cylinders General	Authorizes transportation in commerce of certain DOT specification cylinders, containing Divisions 2.1, 2.2 or 2.3 materials, equipped with plastic valve protection caps.	5
SP13318	Cylinders General	Authorizes transportation in commerce of DOT specification 39 cylinders of 75 cubic inches or less volume, except as specified, for transportation in commerce of certain hazardous materials.	2
SP13544	Cylinders General	Authorizes transportation in commerce of DOT specification 4BA240 cylinders containing liquefied petroleum gas (LPG) and/or residue of LPG without hazard warning labels when transported in a closed transport vehicle that is placarded.	1
SP13599	Cylinders General	Authorizes transportation in commerce of certain Division 2.2 materials in certain DOT specification seamless steel cylinders.	1
SP14251	Cylinders General	Authorizes transportation in commerce of overpacked cylinders containing Class 2 materials with CGA C-7 neck ring labels in lieu of the standard label.	6
SP14419	Cylinders	Authorizes transportation in commerce of pyrophoric liquid n.o.s.	3

	General	in DOT specification 3AL cylinders that are not authorized for that material.	
SP14937	Cylinders General	Authorizes transportation in commerce of certain cylinders that have requalification markings on a label embedded in epoxy in lieu of stamping for the transportation of various refrigerant gases.	1
		Cylinders – NDT/Aerosols	
SP7951	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of certain aerosols containing Division 2.2 materials, with a charge pressure not exceeding 150 psig at 75 °F when shipped in a refrigerated state.	5
SP8786	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of limited quantities of compressed gases, Division 2.2, in accumulators which deviate from the required retest parameters.	6
SP11296	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of certain waste aerosol cans containing flammable gas propellants, including isobutane and propane, overpacked in a UN1A2 steel drum or a UN1H2 plastic drum for disposal.	128
SP12573	Cylinders – NDT/Aerosols	Authorizes manufacture, marking, sale and use of a non-refillable, non-DOT specification inside metal container conforming with regulations applicable to DOT specification 2Q, for transportation in commerce of certain hazardous materials.	1
SP12995	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of certain DOT 2Q specification, non-refillable containers containing polyurethane foam or foam components that will be tested by other means in lieu of subjecting each container to a hot water bath.	1
SP13581	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of insecticide aerosol fogger in non-DOT specification non-refillable inside containers.	1
SP13601	Cylinders – NDT/Aerosols	Authorizes manufacture, marking, sale and use of non-DOT specification containers for transportation in commerce of certain non-flammable aerosols containing foodstuffs at pressures exceeding those authorized.	1
SP14429	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of a DOT specification 2P non-refillable aluminum in-side container which has been leakage tested by an automated in-line pressure check in lieu of the hot water bath specified in the HMR.	2
SP14440	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of Division 2.1 aerosols in certain non-refillable containers which have been tested by an alternative method in lieu of the hot water bath test.	1
SP14503	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of aerosol foodstuffs in a non-refillable metal container similar to DOT specification 2P and 2Q.	1
SP14544	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of Division 2.1 and 2.2 hazardous materials in certain non-DOT specification and DOT specification non-refillable aerosol containers which have been tested by an alternative method in lieu of the hot water bath test.	1
SP14623	Cylinders – NDT/Aerosols	Authorizes manufacture, marking, sale, and use of a bag-on-valve, non-refillable, aerosol container which has been tested by an alternative method in lieu of the hot water bath test. In lieu of the hot water bath, each container must be subject to an automated pressure test on the line.	1
SP14625	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of aerosols in certain non-refillable containers which have been tested by an alternative method in lieu of the hot water bath test. In lieu of the hot water	1

		bath, each container will be subject to an automated pressure test on the line.	
SP14627	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of aerosols in certain non-refillable containers which have been tested by an alternative method in lieu of the hot water bath test. In lieu of the hot water bath, each container must be subject to an automated pressure test on the line.	1
SP14723	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of aerosols containing a Division 2.2 compressed gas in certain non-refillable aerosol containers which are not subject to the hot water bath test.	1
SP14724	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of an aerosol in certain non-refillable containers which have been tested by an alternative method in lieu of the hot water bath test. In lieu of the hot water bath, each container will be subject to an automated in-line pressure test.	1
SP14786	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of DOT specification 2P and 2Q aluminum non-refillable inside containers which are leak tested by an automated in-line pressure check in lieu of the hot water bath specified in the HMR.	1
SP14842	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of consumer commodity (pressurized by nitrogen, compressed) and aerosols, non-flammable, (each not exceeding 1 L capacity) in DOT specification 2P non-refillable aluminum inside containers which have been tested by an alternative method in lieu of the hot water bath test. In lieu of the hot water bath, each container will be subject to an automated pressure test on the line.	1
SP14887	Cylinders – NDT/Aerosols	Authorizes transportation of aerosols and consumer commodities in commerce of DOT specification 2P and 2Q metal non-refillable inside containers and non-DOT specification metal inside containers which are leak tested by an automated in-line pressure check in lieu of the hot water bath specified in the HMR.	2
SP14953	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of DOT specification 2Q non-refillable aluminum inside containers which have been leakage tested by an 100% automated in-line pressure check in lieu of the hot water bath test.	1
SP15135	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of certain DOT 2P non-refillable metal containers (containing a laminate bag on valve system) which are leak tested by an automated in-line pressure check in lieu of the required hot water bath test.	1
SP15265	Cylinders – NDT/Aerosols	Authorizes manufacture, mark, sale and use of non-DOT specification bag-on-valve spray packaging similar to an aerosol container without requiring the hot water bath test conforming with all regulations applicable to a DOT specification 2P or 2Q, except as specified herein, for the transportation in commerce of certain hazardous materials.	1
SP15427	Cylinders – NDT/Aerosols	Authorizes manufacture, mark, sale and use of non-refillable inside containers which are leak tested by an automated in-line pressure check in lieu of the hot water bath specified in the HMR.	2
SP15792	Cylinders – NDT/Aerosols	Authorizes transportation in commerce of DOT specification 2P non-refillable aluminum inside containers which have been tested by an alternative method in lieu of the hot water bath test. In lieu of the hot water bath, each container will be subject to an automated pressure test on the line.	1

		Cargo Tanks/Rail Cars/Portable Tanks	
SP12039	Cargo Tanks/ Rail Cars/ Portable Tanks	Authorizes transportation in commerce of DOT 113C120W tank cars containing ethylene, refrigerated liquid, at an internal pressure of 20 psig instead of the maximum 10 psig.	3
SP12576	Cargo Tanks/ Rail Cars/ Portable Tanks	Authorizes manufacture, marking, sale and use of non-DOT specification tanks conforming with all regulations applicable to a DOT specification MC 331 cargo tank, except as specified, for transportation in commerce of certain hazardous materials.	1
		Operational Air/Vessel	
SP11150	Operational Air/Vessel	Authorizes transportation in commerce of liquefied petroleum gas in DOT specification cylinders, secured to transport vehicles on passenger ferry vessels.	1
SP11691	Operational Air/Vessel	Authorizes transportation in commerce of certain flammable and corrosive liquids, which are the ingredients of soft drinks (beverages), not subject to the segregation requirements for vessel stowage when shipped in the same transport unit.	10
SP13213	Operational Air/Vessel	Authorizes stowage aboard passenger ferry vessels of private motor vehicles such as recreational vehicles, with attached cylinders of liquefied petroleum gas in addition to extra containers of gasoline (including camp stove or lantern fuel) and portable cylinders of liquefied petroleum gas.	1
SP14458	Operational Air/Vessel	Authorizes private motor vehicles such as recreational vehicles, with attached cylinders of liquefied petroleum gas in addition to extra containers of gasoline (including camp stove or lantern fuel) and portable cylinders of liquefied petroleum gas to be stowed aboard passenger ferry vessels.	1
		Operational Highway/Rail/Shipper/Other	
SP7991	Operational Highway/Rail/ Shipper/Other	Authorizes transportation in commerce of railroad flagging kits of specified construction, containing certain Class 1.4 and 4.1 materials, not subject to the HMR.	37
SP8006	Operational Highway/Rail/ Shipper/Other	Authorizes certain articles, explosive, n.o.s., Division 1.4S (toy caps) to be offered for transportation in commerce without labels.	3
SP9610	Operational Highway/Rail/ Shipper/Other	Authorizes transportation in commerce of certain empty packagings containing residues of Class 1 smokeless powders without complete shipping papers and placarding.	11
SP9874	Operational Highway/Rail/ Shipper/Other	Authorizes use of video cameras and monitors or instrumentation and signaling systems such as sensors, alarms, and electronic surveillance equipment, to observe the loading and/or unloading operations of hazardous materials from production control centers in lieu of personnel remaining within 25 feet of the cargo tanks.	1
SP10597	Operational Highway/Rail/ Shipper/Other	Authorizes manufacture, marking and sale of temperature controlled equipment for use in motor vehicles engaged in transportation in commerce of Class 3 liquids or Division 2.1 gases.	1

SP10705	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of packages containing acrolein, stabilized, Division 6.1, to be exempted from the segregation requirements, when shipped by highway.	2
SP10803	Operational Highway/Rail/Shipper/Other	Authorizes manufacture, marking, sale and use of temperature controlled equipment for use in motor vehicles engaged in transportation of Class 3 and Class 2.1 materials.	1
SP10882	Operational Highway/Rail/Shipper/Other	Authorizes manufacture, marking, sale and use of temperature controlled equipment for use in motor vehicles engaged in transportation of Class 3 and Class 2.1 materials.	1
SP11043	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of Division 2.3 materials on the same transport vehicle with materials classed as Division 2.1, Class 3, Class 4, Class 5, and Class 8.	79
SP11055	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of certain hazardous materials that meet the criteria for Division 6.1, PG I, Hazard Zone A in combination packages and provides relief from the segregation requirements.	8
SP11078	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of certain nickel-cadmium batteries each containing no more than 10 ml of liquid potassium hydroxide, a Class 8 material, as not subject to the HMR.	2
SP11151	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of combination packages containing hazardous wastes that are poisonous by inhalation, Division 6.1, PG I, Hazard Zone A, in the same transport vehicle with packages containing hazardous materials assigned to Class 3, Class 8 or Divisions 4.1, 4.2, 4.3, 5.1, 5.2.	1
SP11197	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce by private carrier of restricted quantities of hazardous materials that are authorized for exception in column 8A of the HMT, excluding Class 1, Class 7 and Divisions 6.1 and 6.2.	3
SP11202	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of certain hazardous materials across a public road, from one part of a plant to another, as essentially not subject to parts 172 and 173.	1
SP11356	Operational Highway/Rail/Shipper/Other	Authorizes reassignment of certain high viscosity flammable liquids from Packing Group II to III for packagings with a capacity greater than 30L.	3
SP11373	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of Division 4.2 (self-heating) materials in Packing Group II or III on the same transport vehicle with Class 8 liquids when the materials are appropriately separated.	29
SP11458	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of display packs of consumer commodity packages or limited quantities packages that exceed the 30 kg gross weight limit.	16
SP11470	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of shrink wrapped pallets containing boxes of waste ORM-D materials with the word "WASTE" marked on the outside of the pallet instead of on each individual box.	34
SP11666	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of green graphite products on open flat-bed truck trailers, rail flat cars, intermodal freight containers, and when unitized by banding to wooden runners or pallets.	13
SP11811	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of various household wastes without having the quantity and unit measurement shown on the shipping paper during local pick-up operations.	4
SP11984	Operational Highway/Rail/	Authorizes transportation in commerce of certain unapproved chemical oxygen generators with only one positive means of	17

	Shipper/Other	preventing unintentional actuation of the generator and without the required approval number marked on the outside of the package.	
SP12002	Operational Highway/Rail/Shipper/Other	Authorizes unloading of tank cars containing Class 3 materials utilizing an alternate procedure to remove frozen liquid from bottom outlet valves.	1
SP13190	Operational Highway/Rail/Shipper/Other	Authorizes use of video cameras and monitors to observe the loading operations of anhydrous ammonia from a remote control station in place of personnel remaining within 7.62 meters (25 feet) of cargo tank motor vehicles.	1
SP13199	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of reconditioned (“used”) refrigeration units under the provisions of § 173.306(e).	1
SP13343	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of certain wetted Division 1.1D explosive substances in heated cargo vehicles when they would likely freeze during transport.	1
SP13424	Operational Highway/Rail/Shipper/Other	Authorizes use of video cameras and monitors to observe the loading and unloading operations of various hazardous materials from a remote control station in place of personnel remaining within 7.62 meters (25 feet) of cargo tank motor vehicles.	2
SP13484	Operational Highway/Rail/Shipper/Other	Authorizes DOT specification MC 330, MC 331 and MC 338 cargo tank motor vehicles to be loaded with certain Division 2.2 liquefied gases using specially designed hoses in lieu of full time attendance by a qualified person during loading operations.	2
SP13959	Operational Highway/Rail/Shipper/Other	Authorizes use of a video camera and monitor to observe the loading incidental to movement or unloading incidental to movement of anhydrous ammonia from a remote control room in place of personnel remaining within 25 feet of the cargo tank motor vehicle.	1
SP14141	Operational Highway/Rail/Shipper/Other	Authorizes use of video cameras and monitors to observe the loading incidental to movement or unloading incidental to movement of certain Class 3, 8, and 9 materials in place of personnel remaining within 25 feet of a cargo tank motor vehicle.	1
SP14150	Operational Highway/Rail/Shipper/Other	Authorizes use of video cameras and monitors to observe the loading and unloading operations of certain Class 3 and Class 8 hazardous materials from a remote control station in place of personnel remaining within 7.62 meters (25 feet) of cargo tank motor vehicles.	1
SP14335	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of Division 2.3 Zone A materials on the same motor vehicle with DOT specification packagings containing the residues of Divisions 2.1, 2.3, 4.3, 5.1, and Classes 3 and 8 materials.	3
SP14447	Operational Highway/Rail/Shipper/Other	Authorizes DOT specification cargo tank motor vehicles containing certain Division 2.2; 5.1; and 6.1; Class 3 and 8 hazardous materials to be loaded/unloaded using specially designed hoses in lieu of being attended by a qualified person during loading and unloading operations.	1
SP14525	Operational Highway/Rail/Shipper/Other	Authorizes transportation in commerce of certain used diatomaceous earth filter material not subject to the HMR, except for shipping papers and certain marking requirements.	2
SP14618	Operational Highway/Rail/Shipper/Other	Authorizes manufacture, marking, sale, and use of temperature controlled equipment for use in motor vehicles engaged in the transportation in commerce of Class 3 liquids or Division 2.1 gases.	1
SP14680	Operational	Authorizes use of video cameras and monitors to observe the	2

	Highway/Rail/Shipper/Other	loading incidental to movement or unloading incidental to movement of spent sulfuric acid in place of personnel remaining within 25 feet of a cargo tank motor vehicle.	
SP14726	Operational Highway/Rail/Shipper/Other	Authorizes manufacture, marking, sale, and use of temperature controlled equipment for use in motor vehicle transportation of Class 3 and Division 2.1 materials.	1
SP14822	Operational Highway/Rail/Shipper/Other	Authorizes use of video cameras and monitors or instrumentation and signaling systems such as sensors, alarms, and electronic surveillance equipment, to observe the loading and unloading operations of hazardous materials from production control centers in lieu of personnel remaining within 25 feet of the cargo tanks.	1
SP14827	Operational Highway/Rail/Shipper/Other	Authorizes use of video cameras and monitors to observe the loading incidental to movement or unloading incidental to movement of certain corrosive materials in place of personnel remaining within 25 feet of a cargo tank motor vehicle.	1
SP14840	Operational Highway/Rail/Shipper/Other	Authorizes use of video cameras and monitors to observe the loading incidental to movement or unloading incidental to movement of certain Class 8 materials in place of personnel remaining within 25 feet of a cargo tank motor vehicle.	1
		Non-Bulk Packaging Specifications/IBCs	
SP6614	Non-Bulk Packaging Specifications/IBCs	Authorizes use of polyethylene bottles placed in a polyethylene crate for transportation in commerce of certain Class 8 corrosive materials (NA1760, UN3266, UN3264, UN3265, UN1791, UN1789, and UN2796).	11
SP8230	Non-Bulk Packaging Specifications/IBCs	Authorizes transportation in commerce of Packing Group I and II nitric acids in certain combination packagings.	4
SP9722	Non-Bulk Packaging Specifications/IBCs	Authorizes manufacture, marking, sale and use of UN1H1 plastic drums to be used for transportation in commerce of nitric acid with not more than 40% nitric acid.	2
SP11602	Non-Bulk Packaging Specifications/IBCs	Authorizes transportation in commerce of certain Division 4.3 materials contained in sift-proof closed bulk packagings. Water reactive solid, n.o.s. (contains magnesium, magnesium nitrides) 4.3, UN2813, PG II or III.	11
SP11624	Non-Bulk Packaging Specifications/IBCs	Authorizes transportation in commerce by motor vehicle, rail freight and cargo vessel of certain waste paints and paint related materials, Class 3, in metal or plastic pails, packed in cubic yard boxes, dump trailers, and roll-off containers.	114
SP12030	Non-Bulk Packaging Specifications/IBCs	Authorizes transportation in commerce of battery fluid, acid, packaged with a dry storage battery in a UN4G fiberboard box with a maximum gross weight not over 37.0 kg which exceeds the weight limitation.	1
SP12335	Non-Bulk Packaging Specifications/IBCs	Authorizes transportation in commerce of certain Division 1.1D and 1.4D detonating cords without the ends being sealed in alternative packaging.	8
SP12920	Non-Bulk Packaging	Authorizes transportation in commerce of certain pyrophoric materials in a combination package consisting of UN1A2 outer	19

	Specifications/ IBCs	package and a UN1A1 inner package.	
SP13052	Non-Bulk Packaging Specifications/ IBCs	Authorizes manufacture, mark, sale and use of UN11G intermediate bulk containers (IBCs) for transportation in commerce of waste paint and related materials.	1
SP13217	Non-Bulk Packaging Specifications/ IBCs	Authorizes transportation in commerce of gasoline in non-DOT specification packages known as gasoline dispensers.	1
SP13548	Non-Bulk Packaging Specifications/ IBCs	Authorizes transportation in commerce of lead acid batteries and packages of battery acid (with two different UN numbers) on the same vehicle.	125
SP13796	Non-Bulk Packaging Specifications/ IBCs	Authorizes transportation in commerce of phosphorus, yellow, under water in alternate packaging.	1
SP14137	Non-Bulk Packaging Specifications/ IBCs	Authorizes transportation in commerce of certain hydrochloric acid solutions in UN31H1 or UN31HH1 intermediate bulk containers (IBCs).	1
SP14213	Non-Bulk Packaging Specifications/ IBCs	Authorizes manufacture, marking, sale and use of UN1H1 plastic drums to be used for transportation in commerce of nitric acid with not more than 40% nitric acid.	1
SP14712	Non-Bulk Packaging Specifications/ IBCs	Authorizes manufacture, marking, sale, and use UN11G fiberboard and UN13H4 woven plastic, coated and with liner flexible intermediate bulk containers (IBCs) for use as the outer packaging for certain Class 3 waste paints.	1
SP15235	Non-Bulk Packaging Specifications/ IBCs	Authorizes manufacture, mark, sale and use of UN 11G fiberboard intermediate bulk containers (IBCs) for use as the outer packaging for certain Class 3 waste paints and waste paint related material.	1
SP15373	Non-Bulk Packaging Specifications/ IBCs	Authorizes manufacture, mark, sale and use of the specially designed combination packagings for transportation in commerce of certain Class 4.3 materials without hazard labels or placards, with quantity limits not exceeding 25 grams.	1

IV. Public Comments

In the NPRM, PHMSA welcomed comments concerning its proposed amendments. Specifically, PHMSA was interested in comments from SP holders (both those deemed suitable and those deemed not suitable for adoption) that are reviewed for this rulemaking.

For holders of SPs deemed suitable for adoption, PHMSA requested comment on our determination. We stated that we were particularly interested in comments that confirm or refute

the suitability, safety, and general applicability of the SPs. PHMSA also solicited comments on the regulatory text proposed in this proceeding. Specifically, PHMSA was interested in comments that address whether the proposed regulatory text accurately encompasses the requirements of the SP.

For holders of SPs deemed not suitable for adoption, PHMSA also requested comment on our determination. We stated that we were particularly interested in comments that confirm or refute the suitability, safety, and general applicability of the SPs. We asked that if you are a holder of a SP that was not proposed to be adopted but believe it should be, you should submit material to support such an argument. Specifically, PHMSA requested:

- Information and arguments that support the proposed adoption including technical and scientific data;
- The impact of the proposed adoption including cost and benefits;
- The frequency of shipments made under the SP;
- The frequency of hazardous materials incidents (such as those described in §§ 171.15 and 171.16) occurring during shipments made under the SP; and
- Proposed regulatory text.

Lastly, PHMSA requested comment as it considers a future proposed requirement for a SP applicant to provide potential regulatory text as part of each SP application.

In response to the January 30, 2015 NPRM, PHMSA received 22 sets of public comments. All were supportive of PHMSA’s actions to reduce the number of active SPs. Specifically, commenters to the NPRM were as follows in Table 9:

Table 9: NPRM Commenters

Commenter	Docket Reference (http://www.regulations.gov)
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PCTI Puerto Rico Inc. (PCTI)	PHMSA-2013-0042-003
Pepsi Cola Sales and Distribution, Inc. (PCSD)	PHMSA-2013-0042-004
United Parcel Service (UPS)	PHMSA-2013-0042-006
DS Container (DSC)	PHMSA-2013-0042-007
Mauser USA (Mauser)	PHMSA-2013-0042-009
Gulf Coast Chemical LLC (Gulf Coast)	PHMSA-2013-0042-010
Estes-Cox Corporation (Estes-Cox)	PHMSA-2013-0042-011
Arkema Inc.(Arkema)	PHMSA-2013-0042-013
Veolia ES Technical Solutions, LLC (Veolia)	PHMSA-2013-0042-015
Council on Safe Transportation of Hazardous Articles (COSTHA)	PHMSA-2013-0042-016
Rigid Intermediate Bulk Container Association of North America (RIBCA-NA)	PHMSA-2013-0042-017
Air Products and Chemicals, Inc. (Air Products)	PHMSA-2013-0042-018
Battery Council International (BCI)	PHMSA-2013-0042-019
Institute of Makers of Explosives (IME)	PHMSA-2013-0042-020
The Chlorine Institute (CI)	PHMSA-2013-0042-021
Dangerous Goods Advisory Council (DGAC)	PHMSA-2013-0042-022
Eli Lilly and Company (Eli)	PHMSA-2013-0042-023
Consumer Specialty Products Association (CSPA)	PHMSA-2013-0042-024
Council on Safe Transportation of Hazardous Articles (COSTHA)	PHMSA-2013-0042-025
Dow Chemical Company (Dow)	PHMSA-2013-0042-026
American Coatings Association (ACA)	PHMSA-2013-0042-027
Barlen and Associates, Inc. (Barlen)	PHMSA-2013-0042-028

A. General/Administrative

DSC expresses its concern about the disposition of SPs adopted into the HMR. It asks what happens to SPs once they are adopted into the HMR, and if there will be a phase-in period. DSC also asks, if the adoption of a SP is unacceptable to a grantee or grantees, will the SP still be an available option? It also asks will this rulemaking affect the application of future SPs.

PHMSA notes that as the intention of this rulemaking is to adopt the provisions of certain SPs into the HMR, those affected SPs will be allowed to expire. However, PHMSA is providing a one-year effective date to allow current grantees sufficient time to transition from the provisions of their SPs to the new requirements being adopted into the HMR. In addition, if the adoption of a SP proves to be unacceptable to a grantee, a renewal or modification in accordance with 49 CFR 107.121 will still be allowed. This rulemaking will not affect the application for future SPs as the requirements to apply for a SP are not being revised, and the SP program will continue as permitted by law. Air Products asks if PHMSA will provide a timeline/updates for “other” rulemaking proceedings that may have SPs under consideration for adoption in the HMR. PHMSA will continue to provide updates pertaining to other rulemaking proceedings that may have SPs under consideration for adoption into the HMR through its existing channels which include the semi-annual agenda, rulemaking activities, and Federal Register notices.

In the NPRM, PHMSA solicited input regarding applicants being required to submit proposed regulatory text with SP applications. PHMSA acknowledges mixed support from affected entities on this issue. For example, Veolia and Dow support adoption of such policy while COSTHA and ACA do not. IME supports such policy as an option for an applicant.

IME is concerned that PHMSA will conduct SP reviews for potential adoption on a biennial basis rather than an annual basis as implied through MAP-21 legislation. As noted

elsewhere in this preamble, PHMSA intends to perform SP evaluations on an annual basis; however, rulemaking actions as a result may take more time as necessary.

Lastly, PHMSA's final regulations issued in its final rule entitled "Hazardous Materials: Special Permit and Approvals Standard Operating Procedures and Evaluation Process," under Docket No. PHMSA-2012-0260 (HM-233E; 9/10/15, 80 FR 54418, FR Doc. 2015-22617), contain minor editorial errors in two definitions in adopted in § 107.1 concerning special permits and approvals. PHMSA is correcting those definitions in this final rule.

B. Cylinders – General

No comments were received regarding the SPs proposed for adoption under this category. PHMSA did, however, receive comments requesting reconsideration of certain SPs not proposed for adoption.

Comments Requesting Reconsideration

COSTHA requests that reconsideration be given to adopt portions of SPs 12726 and 15277 (aircraft fire extinguishers) to allow them to be described in transportation as UN1044, Fire extinguishers. PHMSA notes this issue is under consideration in another rulemaking action under docket PHMSA-2011-0140 (RIN 2137-AE80 (HM-234)). COSTHA also requests that reconsideration be given to adopt SP 10898 in § 173.306(f) related to accumulators. Because neither SP was proposed for adoption in the NPRM, neither SP is being adopted in this final rule.

C. Cylinders – NDT/Aerosols

CSPA is supportive of the adoption of SP 11296 and its expansion beyond flammable aerosols only (as proposed in the NPRM).

CSPA and DSC generally support adoption of SP 12573 (and the consolidation with SP 13581) as proposed. They are, however, concerned with the supposed arbitrary increase in reference temperature and pressure with the new DOT 2Q1 standard currently authorized for refrigerant gases in § 173.304. DSC suggests a single requirement of 210 psig at 55 °C (131 °F). It also suggests that such arbitrary actions if adopted could increase the number of SP applications submitted as a result. PHMSA recognizes the commenters' concerns; however, changing the reference temperature for the refrigerant gases to 54.4°C (130°F) would make section 173.304(d) inconsistent with the other sections for the filling of gases. As noted in the NPRM, PHMSA sought to have consistency where some sections referred to 54.4°C (130°F) and some to 55°C (131°F). PHMSA is therefore keeping the reference temperature used for maximum pressure in a container at 55°C (131°F) as proposed in the NPRM. In order to address the commenters' concerns, PHMSA is raising the proposed maximum pressure authorized in the new DOT 2Q1 container to 210 psig at 55°C (131°F) as authorized in §§ 173.304 and 173.306. The burst pressure of the DOT 2Q1 will have to be raised slightly accordingly to provide for the same safety factor. This will be discussed in a later section.

CSPA and DSC generally support adoption of the consolidated SPs 7951, 13601, and 14503 as proposed. They are again, however, concerned with the increase in reference temperature and pressure. CSPA is also concerned that the new relationship proposed between a pressure relief device (PRD) and an end expansion device, and the arbitrary upper boundaries adopted should instead be simply required to operate prior to burst. CSPA and DSC suggest as an alternative that “the requirement could be defined differently for an end expansion device

specifically versus the PRD using the language in SP 13601 that requires that the end buckle before burst and that the container not burst below 270 psig.”

CSPA and DSC correctly point out that the methodology used in the “if/then” table for the use of a DOT 2P or DOT 2Q aerosol on page 5439 [of the NPRM] is actually reversed and would lead to not allowing (by choice) a higher integrity container as a result. PHMSA agrees with the commenters and is revising the tables in § 173.306 accordingly.

CSPA generally supports adoption of the new DOT 2Q1 container as proposed.

DSC suggests that the new DOT 2P1 specification should be limited to refrigerated foodstuffs only as prescribed in SPs 13601, 14503, and 7951. Further, DSC recommends that the new DOT 2P1 specification not be expanded to authorize Division 2.1 flammable gases. However, in its comments, DSC does not provide support as to why the new DOT 2P1 specification should be limited to refrigerated foodstuffs and Division 2.2 (nonflammable) gases only.

DSC recommends that foodstuffs in refrigerated DOT 2P1 cans be excepted, as they currently are under the SPs, from the hot water bath test. PHMSA notes that refrigerated foodstuffs in aerosol cans under § 173.306(b) will continue to be excepted from hot water bath testing when the three SPs are adopted in the HMR.

CSPA supports consolidation of SPs 14429, 14623, 14625, 14627, 14723, 14724, 14786, 14842, 14887, 14953, 15135, 15265, 15427, and 15972 (hot water bath test alternative), SP 14440 (weight test), and SP 14544 (weight and leakage test) as proposed.

DSC is concerned as to what will happen to SPs once adopted into the HMR and whether there will be a phase-in period. It asks because of substantial costs and other impacts due to

relabeling of product, etc. Dow and CSPA support adoption of SP 12995, with Dow asking that sufficient time be allotted to deplete existing inventory.

In response, PHMSA notes there is a one-year transition period provided to affected entities in this final rule. Further, as prescribed in § 173.23(h), a packaging that is permanently marked with a SP number, “DOT–SP” or “DOT–E,” for which the provisions of the SP have been incorporated into the HMR may continue to be used for the life of the packaging without obliterating or otherwise removing the SP number.

Comments Requesting Reconsideration

CSPA strongly asserts that reconsideration should be given to adopting SP 11516, which authorizes transportation in commerce of aerosols that do not meet the HMR definition of an aerosol (e.g., expels propellant only). CSPA suggests that PHMSA should adopt the international United Nations (UN) and the Globally Harmonized System (GHS) definition of an aerosol. In its comments, CSPA claims that DOT committed to adopting the international aerosol definition while it was involved with developing the GHS flammability standard. CSPA also states “it is vitally important that DOT maintain 11516 (and other related SPs) as is.”

Although PHMSA appreciates the comments pertaining to SP 11516, until such a time that PHMSA participates in an open and transparent debate on this issue (redefining the term “aerosol”), SPs such as SP 11516 and the like will remain valid under current policy and definitions.

D. Cargo Tanks/Rail Cars/Portable Tanks

No comments were received regarding the SPs proposed for adoption under this category. PHMSA did, however, receive comments requesting reconsideration of certain SPs not proposed for adoption.

Comments Requesting Reconsideration

In its comments, The Chlorine Institute (CI) recommends that reconsideration be given to adopt SP 9694 and 10457. These SPs authorize the transportation in commerce of chlorine contained in MC 331 cargo tanks equipped with angle valves, excess flow valves and pressure relief valves not presently authorized in the HMR. Because neither SP was proposed for adoption in the NPRM, neither SP is being adopted in this final rule.

In its comments, The CI recommends that reconsideration should be given to adopt SP 15647. This SP authorizes the retesting of certain DOT specification and non-DOT specification multi-unit tank car tanks without approval from the Association of American Railroads (AAR). PHMSA notes that SP 15647 is under consideration for adoption into the HMR in a separate advance notice of proposed rulemaking (ANPRM) under docket PHMSA-2012-0082 (HM-251).

Lastly, the CI recommends that reconsideration should be given to adopt SP 9166 and SP 11903 under Petition for Rulemaking (P-1608) and related SPs 10878, 12516, 14275, 14277, 14779, and 15552. These SPs authorize the manufacture, marking, sale, and use of a non-DOT specification glass fiber reinforced plastic (GFRP) cargo tank conforming with all regulations applicable to a DOT specification 407/412 for transportation in commerce of certain hazardous materials. PHMSA notes it is working to develop a uniform standard for FRP cargo tanks and will address this issue in a future rulemaking.

E. Operational Air/Vessel

COSTHA supports future consideration of SP 11110 under Petition for Rulemaking P-1610. As previously noted, COSTHA submitted a petition for rulemaking under P-1610 to adopt the provisions of SP 11110 into the HMR. This SP authorizes cargo aircraft operators to stow Division 1.4S and Class 8, PG III materials in inaccessible cargo locations in excess of the limitations specified in § 175.75(c). This petition has been accepted by PHMSA for consideration in a future rulemaking; however, more time is needed to research the potential impact of changes to § 175.75 and to coordinate this review with the appropriate parties, including our modal partners.

Based on comments from PCSD, proposed Special provision “W11” in § 172.102 is being replaced by revising § 176.800(a) to allow Class 8 (corrosive) materials that are also foodstuffs or foodstuff ingredients intended for human consumption to not be considered incompatible for segregation purposes in conformance with SP 11691.

Comments Requesting Reconsideration

Some commenters recommended that reconsideration be given to adopt SP 11502 (use of International Civil Aviation Organization Technical Instructions (ICAO TI) for highway shipments). In their comments, COSTHA and UPS firmly support adoption and provide justification as to why the SP should be adopted. However, PHMSA notes SP 11502 is under consideration for adoption into the HMR in a separate, broader, and yet unassigned air-specific rulemaking action.

Arkema recommends that reconsideration should be given to adopt SP 12879 into the HMR. This SP authorizes the transport of IBCs containing combustible liquids without placards

or identification numbers in sealed freight containers consigned for export. Because SP 12879 was not proposed for adoption in the NPRM, the SP is not being adopted in this final rule; however, we may reconsider its codification in a future proceeding as appropriate.

F. Operational Highway/Rail/Shipper/Other

PHMSA acknowledges COSTHA's support for the adoption of petitions for rulemaking P-1607 (SP 11458) and P-1611 (SP 11470) into the HMR in this proceeding.

IME supports the adoption of SP 4850 as proposed. This SP authorizes the transportation in commerce by motor vehicle, rail freight, cargo vessel, and cargo aircraft of limited quantities of certain approved explosive articles (UN0237, charges, shaped, flexible, linear; and UN0104, cord, detonating, mild effect or fuse, detonating, mild effect metal clad) re-classed as Division 1.4D in prescribed packagings, subject to certain special provisions.

Veolia supports the adoption of SP 11055. Further, Veolia supports adoption of SP 11470 with one major modification—the HMR should not be limited to “expired” products but rather should include all consumer commodities shipped for disposal/recycling under manufacturer recalls, off-spec/unwanted/unneeded product, etc. PHMSA agrees with Veolia and is revising § 173.306(k) accordingly.

COSTHA and DGAC support the adoption of SPs 11352, 12207, 12306, 13165, and 14945. However, according to COSTHA, the proposed regulatory text in § 177.820 appears to be more restrictive than the exceptions currently in § 171.1(d)(4). After further consideration, we agree with COSTHA and are not adopting the five SPs in this final rule as proposed in the NPRM.

Dow supports the adoption of SP 9874, SP 14822, and the eight related SPs. In its comments, Dow supports codification of the SPs but has specific concerns: (1) SP 9874 and 14822 authorize instrumentation and signaling systems such as sensors, alarms, and electronic surveillance equipment in addition to video monitoring; (2) SP 9874 and 14822 do not require a video camera with a “motorized zoom lens capable of panning and zooming from the remote control station”; (3) SP 9874 and 14822 do not require that the view capability must include the entire containment area; and (4) Dow wants assurance that the attendance requirements in § 177.834 (i) apply to motor carriers only. We agree that Dow’s comments have merit and, in this final rule, except for number (4), the regulatory text in § 177.834(i) is revised accordingly. Regarding issue number (4), long-standing interpretations preclude the need to revise the attendance applicability provisions of the HMR. As a result of Dow’s concerns, § 177.834 (i) is revised accordingly in this final rule.

In its comments, Eli expresses its support for the adoption of SP 14150 in § 177.834(i)(3)(ii) as proposed. SP 14150 authorizes use of video cameras and monitors to observe the loading and unloading operations of certain Class 3 and Class 8 hazardous materials from a remote control station in place of personnel remaining within 7.62 meters (25 feet) of cargo tank motor vehicles. Lastly, PCTI supports adoption of SP 11352 as proposed in § 177.820.

Veolia supports the adoption of SP 11043. However, it notes that the regulatory text proposed in § 177.840(a)(3)(i) should be revised to require a 4-foot separation rather than a 5-foot separation for consistency with the segregation spacing requirements found in § 173.12(e). We agree with Veolia’s comment and are revising § 177.840(a)(3)(i)(C) accordingly.

Veolia supports adoption of SP 11984 with one major modification—the HMR should require flame-proof outer packaging for chemical oxygen generators shipped with only one positive means of preventing unintentional activation as expressed in concern for equivalent level of safety in proposed SP modification in August 2011. After additional review, in this final rule, we are adopting the provisions of SP 11984 as proposed into § 173.168.

In the NPRM, PHMSA proposed to add Special Provision 383 to adopt SP 11356. This SP authorizes certain materials meeting the conditions for high viscosity flammable liquids specified in § 173.121(b)(1)(i), (b)(1)(ii), and (b)(1)(iv), to be reassigned to Packing Group (PG) III for transportation by motor vehicle. The SP prescribes packaging, capacity limitations, and load securement requirements. We proposed to adopt the provisions of the SP in its entirety in this new special provision for the following entries: Coating solution (UN1139, PG II) and paint (UN1263, PG II). In its comments, ACA requests that PHMSA expand the materials authorized for reclassification to include: (1) UN1866, Resin solution, PG II; (2) UN1210, Printing ink, PG II; and (3) UN1133, Adhesives, PG II. We agree with ACA and are revising the HMT for the requested entries accordingly.

In the NPRM, we proposed to add a new paragraph (h) to § 173.12 to adopt the provisions of SP 11470 in its entirety. In its comments, ACA is concerned that “stretch-wrapped” pallets would not be able to take advantage of the exceptions provided for “shrink-wrapped” pallets. Further, ACA suggests that the proposed regulatory text limits the type of packages to “boxes.” We agree and are revising § 173.12(h) to explicitly allow “stretch-wrapped” pallets and any authorized type of packaging.

Section 174.67 establishes specific operational requirements for railroad tank car unloading. For combustible liquids or Class 3 liquid petroleum distillate fuels, SP 12002

authorizes clearing frozen liquid blockages from the outlet by attaching a fitting to the outlet line and applying nitrogen at a pressure of 50 to 100 psi. In the NPRM, we proposed to revise paragraph (g) to § 174.67 to adopt the provisions of SP 12002 in its entirety. In its comments, ACA recommends that the use of nitrogen should be permitted “at a pressure of up to 100 psi” for clarity. We agree with ACA and are revising § 174.67(g) accordingly.

In its comments, DGAC supports adoption of SP 11666 as § 172.102(c)(1), Special Provision 384. It does, however, comment on the use of the word “sifting” which should actually be “shifting” and, further, the SP permits stacking two or more levels high to achieve maximum allowable utilization of the designated vehicle, rail car weight, or intermodal freight container weight or vessel hold volume. We agree with DGAC’s comments and the special provision is revised accordingly.

DGAC supports the adoption of SP 14525 and correctly points-out some discrepancies in preamble discussion of its adoption in new § 172.102(c)(3), Special Provision B130. We agree with DGAC’s comments and revise the preamble discussion and regulatory text accordingly.

Comments Requesting Reconsideration

IME and COSTHA firmly support that reconsideration should be given to adopt SP 14282. This SP authorizes transportation in commerce of certain detonators, detonator assemblies, detonators for ammunition, detonating fuses and igniting fuses on the same motor vehicle with any other Class 1 explosives. Because SP 14282 was not proposed for adoption in the NPRM, the SP is not being adopted in this final rule.

Veolia comments that reconsideration should be given to adopt SP 12998. This SP authorizes the transportation in commerce of lab packs containing materials that are not waste

materials by private or contract carrier from one laboratory to another within the same company. Because SP 12998 was not proposed for adoption in the NPRM, the SP is not being adopted in this final rule.

Veolia comments that reconsideration should be given to adopt SP 12102. This SP authorizes transportation in commerce of certain unapproved desensitized explosives. Because SP 12102 was not proposed for adoption in the NPRM, the SP is not being adopted in this final rule.

Veolia comments that reconsideration should be given to adopt SP 13179. This SP authorizes transportation in commerce of certain approved lighters which have been removed from their inner packaging and are being sent for disposal. Because the SP indicated Code 5 (already adopted or otherwise covered under current regulations as the reason it was considered not suitable for adoption), Veolia asserts PHMSA will terminate the SP and therefore, its provisions either need to be adopted into the HMR in this rulemaking or the SP should not be terminated. We sincerely apologize for any confusion this may have caused as we mistakenly miscoded SP 13179 in the NPRM. In hindsight, SP 13179 should have been a Code 2 or 3 as not suitable for adoption. Further, because SP 13179 was not proposed for adoption in the NPRM, the SP is not being adopted in this final rule nor do we intend to terminate it at this time.

For highway transportation by private carrier, SP 11197 provides relief from the requirement to display the limited quantity marking on packages containing materials assigned to PG II and III and prepared in accordance with the limited quantity requirements in Part 173. In its comments, ACA claims the regulatory text is not clear regarding its application but did not provide alternative language. Consequently, the language is adopted as proposed.

Gulf Coast, RIBCA-NA, and CI recommend that reconsideration should be given to adopt SP 12412 into the HMR as there are 322 companies as grantees. This SP authorizes discharge of liquid hazardous materials from certain UN intermediate bulk containers (IBCs) and DOT specification 57 portable tanks without removing them from the vehicle on which they are transported. Because SP 12412 was not proposed for adoption in the NPRM, the SP is not being adopted in this final rule.

Estes-Cox firmly supports the adoption of SP 7887 and comments that reconsideration should be given. This SP authorizes certain Class 1 articles in small amounts to be reclassified as Division 4.1 flammable solid, organic, n.o.s. It applies to small “single-use expendable” or “reloadable” rocket motors first classed as Division 1.4C or 1.4S (NA0323 or NA0276) shipped with or without their igniters classed as Division 1.4G or 1.4S under § 173.56. Because SP 7887 was not proposed for adoption in the NPRM, the SP is not being adopted in this final rule.

G. Non-Bulk Packaging Specifications/IBCs

IME supports the adoption of SP 12335, which authorizes transportation in commerce of certain Division 1.1D and 1.4D detonating cords without the ends being sealed in alternative packaging.

SP 8230 authorizes the transportation in commerce of PG I and II nitric acids in certain combination packagings by motor vehicle, rail freight, cargo vessel and cargo-only aircraft. Specifically, “Nitric acid, other than red fuming, with more than 70 % nitric acid” and “Nitric acid, other than red fuming, with not more than 70 % nitric acid” is authorized to be transported in inner plastic bottles in rigid foam plastic receptacles or plastic bags lined with absorbent material in outer packagings. In its comments, UPS supports adoption of SP 8230 in

§ 173.158(j) as proposed.

Section 173.158 provides general requirements and exceptions for shipments and packagings of nitric acid. In the NPRM, we proposed to establish a new paragraph (i) to authorize “Nitric acid of up to 40 % concentration” in a UN1H1 non-removable head plastic drums with certain conditions as prescribed in SP 14213. In its comments, Mauser questioned why SP 9722 was not also proposed for adoption as it is identical to Greif’s SP 14213. After additional review, we agree and in this final rule are also adopting the provisions of SP 9722 into § 173.158 accordingly.

DGAC supports the adoption of SP 9610 with edits. However, the SP was revised in November 2014 after review of the SPs as part of this proceeding. We agree with the revisions made to the SP. Therefore, in this final rule, we are revising new paragraph § 173.29(f) to address the DGAC edits and the 2014 revisions to the SP, specifically, to include fiberboard boxes as authorized packagings for empty packagings containing the residue of smokeless powders.

Comments Requesting Reconsideration

IME and COSTHA firmly support that reconsideration should be given to adopt SP 8451. This SP authorizes transportation in commerce of not more than 25 grams of solid explosive or pyrotechnic material, including waste-containing explosives that have an energy density not significantly greater than that of pentaerythritol tetranitrate (PETN), classed as Division 1.4E, when packed in a special shipping container. Because SP 8451 was not proposed for adoption in the NPRM, the SP is not being adopted in this final rule.

IME firmly supports that reconsideration should be given to adopt SP 10880. This SP authorizes the transportation in commerce of ammonium nitrate-fuel oil mixture (ANFO), Division 1.5, in reusable, flexible intermediate bulk containers (IBCs) type UN 13H3 or UN 13H4 conforming to Subpart N and O of Part 178. Because SP 10880 was not proposed for adoption in the NPRM, the SP is not being adopted in this final rule.

IME and COSTHA firmly support that reconsideration should be given to adopt SP 11156. This SP authorizes transportation in commerce of NA0331, UN1942 and UN0331 in non-DOT specification multi-wall plastic-lined paper bags. Because SP 11156 was not proposed for adoption in the NPRM, the SP is not being adopted in this final rule.

SP 11624 was not proposed for adoption in the NPRM. The SP is in its fifteenth revision and has 114 grantees. The SP authorizes transportation in commerce of certain waste Class 3 paint and paint related material (UN1263; PG II and PG III) contained in metal or plastic pails further packed in non-specification bulk packagings such as cubic yard boxes, plastic rigid-wall bulk containers, dump trailers, and roll-off containers. In their comments, Veolia, ACA, and DGAC provided substantial justification why reconsideration should be given to adopt SP 11624 into the HMR. Therefore, after reevaluation, SP 11624 and three related packaging SPs (i.e., SP 13052, SP 14712, and 15235) are adopted as new § 172.102(c)(3), Special Provision B131.

V. Section-by-Section Review by Topic Area

A. Cylinders – General

Part 172

Section 172.102 Special Provisions

Section 172.102(c) lists special provisions applicable to specific entries in the Hazardous Materials Table (HMT). Special provisions may contain packaging requirements, conditions or limitations, and exceptions applicable to particular quantities or forms of hazardous materials.

In general, non-bulk packagings must be marked with an identification number and proper shipping name and bear labels communicating the hazard of the material contained in the package. SP 13544 authorizes the transportation in commerce of DOT Specification 4BA240 cylinders containing liquefied petroleum gas (LPG) and propane and/or residue of LPG or propane without hazard warnings (i.e., hazard communication) provided the materials are transported in a closed and placarded transport vehicle. This SP supports the propane cylinder exchange programs that accept expended cylinders in exchange for full cylinders. Cylinders collected during the course of these programs may not always bear the appropriate hazard markings and labels as required by the HMR. SP 13544 prescribes certain operational controls to ensure appropriate hazard communication, driver training, and appropriate securement of the cylinder on the transport vehicle.

In this final rule, PHMSA is adopting SP 13544 as proposed by adding new Special Provision, “N95” to § 172.102(c)(5) that excepts cylinders containing UN1075, Liquefied petroleum gas and UN1978, Propane from marking the identification number and proper shipping name or bear hazard labels provided certain conditions are met. Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

Section 172.400a

Section 172.400a provides exceptions or alternatives to the HMR labeling requirements under specific circumstances. One such alternative permits the use of a neckring marking, under certain conditions, in accordance with the Compressed Gas Association (CGA) Pamphlet C-7, Guide to Preparation of Precautionary Labeling and Marking of Compressed Gas Containers, Appendix A, 8th Edition (2004). Section 172.400a permits the use of a CGA Pamphlet C-7 marking in lieu of the required 100 mm x 100 mm square-on-point labels on a Dewar flask meeting the requirements in § 173.320 and on cylinders containing Division 2.1, 2.2, and 2.3 materials that are not overpacked.

SP 14251 authorizes the transportation of overpacked cylinders, containing Class 2 materials, with CGA C-7 neckring markings provided the overpack is labeled in accordance with § 172.400. Additionally, the CGA petitioned PHMSA (under petition P-1521) to allow cylinders to display the neckring marking even when overpacked. The petition, if adopted, would still require the overpack to display the 100 mm x 100 mm square-on-point labels in accordance with 49 CFR Part 172, Subpart E. The marking prescribed in Appendix A to CGA Pamphlet C-7 provides useful information in a clear and consistent manner and its widespread use on cylinders over the course of several years has enhanced its recognition. The adoption of SP 14251 and CGA's petition would provide greater flexibility for shipments of cylinders while ensuring adequate hazard communication. Therefore, PHMSA is revising as proposed § 172.400a by authorizing the transportation of overpacked cylinders marked in accordance with CGA Pamphlet C-7 provided the overpacks are properly labeled.

Part 173

Section 173.181

Section 173.181 prescribes authorized packagings for the transportation of pyrophoric materials (liquids).

SP 14419 authorizes the use of DOT Specification 3AL cylinders constructed from aluminum alloy 6061-T6 for the transportation of pyrophoric liquids provided: (1) the cylinders are constructed of 6061-T6 aluminum; (2) have a minimum marked service pressure of 1800 psig; (3) have a maximum water capacity of 49 liters; and (4) any preheating or heating of the cylinders is limited to a maximum temperature of 175 °F. In this final rule, PHMSA is revising § 173.181(a) as proposed to permit the use of DOT Specification 3AL cylinders constructed from aluminum alloy 6061-T6, with the same specified conditions for the transport of pyrophoric materials.

Section 173.193

Section 173.193(b) requires that “Bromoacetone, Methyl bromide, Chloropicrin and Methyl bromide mixtures, Chloropicrin and Methyl chloride mixtures, and Chloropicrin mixtures charged with non-flammable, non-liquefied compressed gas be packaged in DOT Specification 3A, 3AA, 3B, 3C, 3E, 4A, 4B, 4BA, 4BW, or 4C cylinders having not over 113 kg (250 pounds) water capacity (nominal).”

SP 12301 authorizes the transportation in commerce of Chloropicrin and Methyl bromide mixtures in DOT 4BW cylinders with water capacity (nominal) not over 454 kg (1,000 pounds). In this final rule, PHMSA is adopting as proposed the revisions to § 173.193(b) that allow for Chloropicrin and Methyl bromide mixtures to be packaged in DOT specification 4BW cylinders with a water capacity of not over 454 kg (1,000 pounds).

Section 173.301

Section 173.301 prescribes the general requirements for the use of cylinders including a list of authorized cylinders, general filling requirements, valve protection, and pressure relief device requirements. In the NPRM, we proposed revisions that would amend certain pressure relief device requirements and permit the use of valve caps made from a material other than metal as authorized under the terms of three SPs.

SP 13318 authorizes the transportation in commerce of DOT Specification 39 cylinders of 75 cubic inches or less volume, without the PRD in direct communication with the vapor space. PHMSA proposed to amend paragraph (f)(2) to state that this provision does not apply to cylinders of 75 cubic inches or less in volume filled with a Liquefied petroleum gas, Methyl acetylene and Propadiene mixtures, stabilized, Propylene, Propane or Butane. Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

SP 8074 provides an exception from the PRD requirements for a DOT Specification 3E cylinder up to 12 inches long and 2 inches in diameter when filled with the following gases and associated quantity limits: Carbon dioxide, liquefied 0.24L (8 oz.), Ethane 0.12L (4oz.), Ethylene (4 oz.), Hydrogen chloride, anhydrous 0.24L (8 oz.), Nitrous oxide 0.24L (8 oz.), Vinyl fluoride, stabilized 0.24L (8 oz.) and Monochlorotrifluoromethane 0.35L (12 oz.). In the NPRM, PHMSA proposed to create an additional exception to PRD requirements for DOT-3E cylinders under limited circumstances in new paragraph § 173.301(f)(7). Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

SP 12782 authorizes plastic valve protection caps for certain Division 2.1, 2.2, and 2.3 materials when the valve protection is sufficient to prevent leakage when the cylinder, with the valve installed, is dropped from 2.0 m (7 ft) or more onto a non-yielding floor, impacting the valve assembly or cap at the orientation most likely to cause damage. The HMR require that each cylinder with a valve must have a protective metal cap, other valve protection device, or an overpack which is sufficient to protect the valve from damage during transportation. In the NPRM, PHMSA proposed to amend §§ 173.40(d) and 173.301(h) to allow for the new valve protection standard, including the valve cap, to be made from plastic as authorized in SP 12782. Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

Section 173.302a

Sections 173.302, 173.302a, 173.304 and 173.304a prescribe additional requirements for the transport of non-liquefied (permanent) and liquefied compressed gases in DOT specification cylinders. These requirements include authorized cylinders and filling limits. Section 173.302a(b) states that a DOT 3A, 3AA, 3AX, 3AAX, and 3T cylinder may be filled with a compressed gas, other than a liquefied, dissolved, Division 2.1, or Division 2.3 gas, to a pressure 10 % in excess of its marked service pressure, subject to certain criteria.

SP 6530 authorizes the transport in commerce of hydrogen and mixtures of hydrogen with helium, argon, or nitrogen, in certain cylinders filled to 10 % in excess of their marked service pressure. In the NPRM, PHMSA proposed to add a new paragraph (c) to include this exception and to redesignate the other paragraphs in this section to reflect this addition. Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as

proposed in the NPRM with the exception of an editorial correction. In the NPRM, paragraph (c)(3)(ii) stated that cylinders manufactured with chrome moly steel must have been normalized. The paragraph has been corrected to state that the steel must have been quenched and tempered, not normalized. In addition the paragraph (c)(4) the term safety relief devices has been corrected to pressure relief devices for consistency with current regulations.

Section 173.304a

In § 173.304a(a)(2), a table provides the maximum filling densities and permissible cylinder types for certain named gases. Currently, § 173.304a(a)(2) permits a maximum filling density of 68 % for carbon dioxide and nitrous oxide in DOT 3, DOT 3HT2000 and DOT 39 cylinders, and DOT 3A, 3AA, 3AX, 3AAX, 3E, 3T, and 3AL cylinders with a marked service pressure of 1800 psi.

SP 13599 authorizes additional maximum filling densities for carbon dioxide and nitrous oxide to include 70.3 %, 73.2 %, and 74.5 % respectively in DOT 3A, 3AA, 3AX, 3AAX, 3AL, and 3T cylinders with marked service pressures of 2000, 2265, and 2400 psig, subject to operational controls. Air Products and Chemicals Inc. (Air Products) submitted a petition for rulemaking (P-1560) requesting PHMSA revise § 173.304a(a)(2) to adopt the provisions of SP 13599. In the NPRM, PHMSA proposed to modify the entries currently in the table in § 173.304a(a)(2) to add additional filling densities for carbon dioxide and nitrous oxide. Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

Part 180, Subpart C

Qualification, Maintenance and Use of Cylinders

The HMR prescribe requirements for the continuing qualification, maintenance, and periodic requalification of DOT specification cylinders, DOT SP cylinders, and UN pressure receptacles. These requirements ensure that cylinders conform to the appropriate specification and compromised cylinders are not filled with hazardous materials. The discussion of the proposed amendments includes a section-by-section review of the current requirements, and a brief discussion of SPs considered for adoption and proposed amendments.

Section 180.209

Paragraph (e) of § 180.209 authorizes a proof pressure test in lieu of the volumetric expansion test for 4B, 4BA, 4BW, or 4E cylinders protected with a corrosion resistant coating and used exclusively for the gases specified in that paragraph.

SP 12084 expands the list of authorized gases in paragraph (e). These gases include refrigerated and liquefied gases similar to those already permitted by § 180.209(e). In the NPRM, PHMSA proposed to adopt the provisions in SP 12084 by removing the list of authorized gases and authorizing the use of the proof pressure test for DOT- 4B, 4BA, 4BW, or 4E cylinders protected externally by a suitable corrosion resistant coating and used exclusively for non-corrosive gases. The authorized specifications limit the total pressure in the cylinder to 500 psi or less. Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

Section 180.213

Cylinders requalified in accordance with the HMR must bear requalification markings in accordance with § 180.213. As provided in § 180.213(c), “The depth of requalification markings may not be greater than specified in the applicable specification. The markings must be made by stamping, engraving, scribing or other method that produces a legible, durable mark.”

SP 14937 allows the use of a label embedded in epoxy in lieu of other methods prescribed in § 180.213. In the NPRM, PHMSA proposed to amend paragraph (c) to allow the use of a label embedded in epoxy in lieu of stamping provided the marking is legible and durable. Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

B. Cylinders – Non-Destructive Testing/Aerosols

Part 173

Section 173.304

Section 173.304 prescribes requirements for the filling of cylinders with liquefied compressed gases. Paragraph (d) of this section provides for authorized containers for the filling of cylinders with refrigerant and dispersant gases. Current regulations authorize these gases in DOT 2Q non-refillable metal containers.

SP 12573 authorizes a refrigerant gas R 134a,(UN3159), in a non-DOT specification container similar to a DOT 2Q container with a maximum allowable pressure for the contents of 198 psig at 54.4 °C (130 °F). In the NPRM, we differed marginally from the SP and proposed to adopt a maximum pressure threshold of 200 psig at 55 °C (131 °F) for the container’s contents. We indicated there was no safety basis for the 200 psig ceiling other than we believed it was a cleaner cutoff point than the 198 psig maximum found in the SP. In addition, as part of the

variation on the design of a DOT 2Q container, we proposed the modified container would be marked as a “DOT 2Q1.”

Current regulations require that the pressure of the contents of the metal containers not exceed 87 psig at 21 °C (70 °F). In the NPRM, we invited comment on whether the requirement for a maximum pressure should be specified at 21 °C (70 °F) for the 2Q1 container in addition to the limit at 55 °C (131 °F). If so, we invited comment on what the upper limit should be for a typical refrigerant or dispersant gas such as 1,1,1,2 Tetrafluoroethane, R134a.

In its comments, DSC suggests a single requirement of 210 psig at 55 °C (131 °F). It also suggests that such arbitrary actions if adopted could increase the number of SP applications submitted as a result. PHMSA recognizes the commenters concerns, however, changing the reference temperature for the refrigerant gases to 54.4 °C (130 °F) would make section 173.304(d) inconsistent with the other sections for filling of gases. As noted in the NPRM, PHMSA sought to have consistency where some sections referred to 54.4 °C (130 °F) and some to 55 °C (131 °F). In order to address the commenters concerns, PHMSA is raising the proposed maximum pressure authorized in the new DOT 2Q1 container to 210 psig at 55°C (131°F) as authorized in §§ 173.304 and 173.306. The burst pressure of the DOT 2Q1 will have to be slightly raised accordingly to provide for the same safety factor. This will be discussed in a later section. See the associated discussion in the comments received from Dow earlier in this preamble.

Section 173.306

Section 173.306 prescribes the general requirements and exceptions for limited quantities of compressed gases. In the NPRM, we proposed numerous changes to this section. The proposed changes and resolutions are discussed in the following.

Conforming revisions.

Throughout § 173.306 of the HMR and within related SPs that provide exemptions from these regulations for gases, pressure standards are indicated at either 130 °F or 131 °F. In the interest of consistency and conformity with the general requirements for compressed gases in §§ 173.301 and 173.301a, in the NPRM we proposed to change all references of 54.4 °C (130 °F) to 55 °C (131 °F). We invited comment on whether there would be any negative impacts in making this conforming change. We also proposed making revisions to the construction and formatting of how this section is presented (e.g., insertion of an “if, then” table) in an effort to make the requirements more reader-friendly.

Authorized metal containers

DOT 2P inner nonrefillable metal containers.

Under § 173.306, limited quantities of foodstuffs or soaps with soluble or emulsified compressed gas are authorized in nonrefillable metal or plastic containers. The paragraph (b)(1) introductory text authorizes these containers subject to a pressure not to exceed 140 psig at 54.4 °C (130 °F). SP 13601 and SP 14503 authorize the transportation of “UN1950, Aerosols, non-flammable (each not exceeding 1 L capacity), 2.2,” and SP 7951 authorizes the transportation of “UN1956, Compressed gas, n.o.s., 2.2,” in containers that otherwise conform to DOT 2P or DOT 2Q specifications with some modifications. Under the terms of SP 13601, the containers must have a maximum pressure for the contents not to exceed 160 psig at 54.4 °C (130 °F) and, for SP 7951 and SP 14503, the containers must have a maximum pressure for the contents not to exceed 150 psig at 23.9 °C (75 °F) and must be transported in a refrigerated state.

In the NPRM, we requested comments on whether refrigeration should be a condition of transport of these foodstuffs under pressure. In their comments, DSC and CSPA both

recommend that PHMSA continue to require refrigeration as a condition of transport of these foodstuffs under pressure. See the comment summary section for a more detailed discussion of this issue. Because at least one of the special permits to be incorporated (SP 13601) does not explicitly require refrigeration, this requirement will not be adopted. Note that the additional limit of 150 psig at 23.9 °C (75 °F) is required. The shipper may use refrigeration if needed to achieve this pressure. As part of the variation of the DOT 2P containers, the modified containers are to be marked as “DOT 2P1” under the provisions of new § 178.33c discussed separately in this rulemaking.

We also proposed in the NPRM to include the specification DOT 2P1 as an authorized metal aerosol container under § 173.306(a)(3)(ii). We saw no reason to limit the container to foodstuffs or soaps under paragraph (b)(1) because the pressure limit for the contents is the same as the current requirement for a standard DOT 2P container. Lastly, we proposed that the DOT 2P1 would be authorized for both Division 2.1 (flammable) and 2.2 (non-flammable) aerosols under § 173.306(a)(3)(ii). PHMSA received negative comments on the use of the DOT 2P1 container for flammable gases. Because there has been no experience with this type of container equipped with a pressure relief device in flammable gas service, we will not adopt the 2P1 for any materials other than those authorized in the special permits incorporated at this time.

DOT 2Q inner nonrefillable metal containers.

Under § 173.306, limited quantities of compressed gas are authorized in metal aerosol containers as defined in § 171.8 of the HMR. Paragraph (a)(3) introductory text of this section authorizes metal aerosol containers under certain conditions to include packaging types and pressure thresholds. Section 173.306(a)(3)(ii) currently requires the use of a DOT 2Q container

for pressures exceeding 160 psig at 54.4 °C (130 °F) but not to exceed 180 psig. Except for some modifications, SP 12573 authorizes the packaging of UN1950, Aerosols, non-flammable, in non-DOT specification containers that otherwise conform to the DOT 2Q specification with a maximum pressure of 198 psig at 54.4 °C (130 °F).

In the NPRM, we proposed to adopt the modified DOT 2Q as an authorized metal aerosol container. We differed marginally from the SP in that we proposed to adopt a maximum pressure threshold of 200 psig at 55 °C (131 °F). We stated that there was no safety basis for the 200 psig ceiling other than we believed it was a cleaner cutoff point than the 198 psig maximum found in the SP. Additionally, we sought to provide consistency by using a reference temperature of 55 °C (131 °F). PHMSA received comments about the negative impact of raising the reference temperature from 54.4 °C (130 °F) to 55 °C (131 °F) particularly for shippers of R134a which has a pressure of 198 psig at 54.4 °C (130 °F). The commenters further stated that the pressure of R134a at 55 °C (131 °F) is 202 psig and that a pressure of 210 psig should be adopted. Consequently, in this final rule, PHMSA will adopt a pressure of 210 psig at 55 °C (131 °F) in order to allow for small variations; however, the reference temperature will remain at 54.4 °C (130 °F). As part of the variation of the specification of a DOT 2Q container, we stated the modified container will be marked as “DOT 2Q1.”

In the NPRM, the proposed design burst pressure of the DOT 2Q1 was 300 psig. Because the fill pressure of the DOT 2Q1 will be 210 psig at 55 °C (131 °F), PHMSA will raise the design burst pressure to 320 psig in this final rule. The pressure of 320 psig is consistent with the minimum design burst pressure in SP 12573.

The NPRM also proposed to expand authorized materials to include Division 2.1 aerosols for the DOT 2Q1 specification. At that time, we saw no reason to limit the use of this container

to non-flammable aerosols based on its record of use and that DOT 2Q containers currently authorized in the HMR are authorized to be used for all aerosol types. We also invited comment on the suitability of the container for all aerosol types. See the associated comment summary discussions for §§ 173.304 and 178.33d. PHMSA received mixed comments on the use of the DOT 2Q1 container for flammable gases. Because there has been no experience with this type of container equipped with a pressure relief device in flammable gas service, we will not adopt the DOT 2Q1 for any materials other than those authorized in the special permits incorporated at this time.

SP 13581 is linked to the above proposed provision in that it authorizes the use of metal aerosol containers manufactured, tested, and marked according to SP 12573. We believe this SP will no longer be needed with the adoption of the modified DOT 2Q container (i.e., a DOT 2Q1 container).

Alternatives to testing of metal aerosol containers by a hot water bath test.

As a condition of the use of a metal aerosol container used for certain commodities, each container, after being filled, must be subjected to a hot water bath to raise the internal pressure to such a degree that leakage or permanent deformation, if any, can be determined [see § 173.306(a)(3)(v)]. The provision also provides for a testing protocol for a container where the contents may be sensitive to heat. Currently, this is the only method authorized for determining leakage or permanent deformation. Thus, fillers that have developed other testing protocols or do not want to subject their products to a hot water bath test, must obtain a SP to do so. A number of SPs that authorize the use of alternative methods to determine leakage or permanent deformation are discussed as follows:

(1) Alternate hot water bath test. SP 12995 authorizes a methodology that is a combination of a hot water bath test, a weight test, and visual inspection. Rather than subjecting each filled container to a hot water bath test, only one container out of each lot is subjected to the hot water bath test, a second is subjected to a weight test, the results of which must be compared to weight specification for the container as outlined in quality control procedures, and finally, the remainder of the lot must be visually inspected by examining the valve, crimp, and seam areas for evidence of leakage.

In the NPRM, we proposed to adopt SP 12995. The permit authorizes only DOT 2Q containers but we are applying it to all authorized metal aerosol containers. While determining if SP 12995 was suitable for inclusion in this rulemaking, PHMSA's technical evaluators confirmed that the methodology that includes a combination of hot water bath test, weight test, and visual inspection may be performed on a DOT 2P as well as a DOT 2Q. Since these containers are similar designs except in terms of strength, this alternative to the hot water bath test is applicable to any metal container. Previously, most applicants of SP 12995 only requested 2Q because that is what they needed for their particular hazmat, but that does not mean that alternative testing is not acceptable for similar containers. Additionally, the permit applies to specific filling conditions but we will apply this testing method to containers complying with the current filling conditions in § 173.306(a)(3). Finally, we vary from the permit with our proposed language in that we require maintenance and access to operating procedures especially with regard to the weight test and specification in order to effect a broader application of this alternative. Rather than specify standards, we will allow persons to develop their own procedures that best fit their product on the condition that DOT has access to these procedures.

Commenters were very supportive of our proposals to adopt such testing alternatives and, in this final rule, we are codifying them as proposed.

(2) Automated in-line pressure test. SPs 14429, 14623, 14625, 14627, 14723, 14724, 14786, 14842, 14887, 14953, 15135, 15265, 15427, and 15972 all authorize the use of an automated process to check the pressure of filled containers (i.e., an “automated in-line pressure check”) instead of subjecting the containers to a hot water bath. In this final rule, we are adopting the provisions of these SPs as proposed that authorize the use of an automated process for pressure checks that does not involve a hot water bath.

(3) Weight test. SP 14440 authorizes the use of a process to check the weight of filled containers (i.e., an “automated in-line pressure check”) instead of subjecting the containers to a hot water bath. In this final rule, we are adopting the provisions of the SP as proposed to authorize the use of weight checks as a means to determine compliance with pressure requirements.

(4) Leakage test. SP 14544 authorizes the use of a high pressure air test on empty containers combined with a leakage test for filled containers instead of subjecting the containers to a hot water bath. The testing protocol for filled containers found in this SP is currently applied to plastic containers under paragraph (a)(5) of this section in the HMR, however, the pressure and leakage test of the empty containers differs in its application. Under SP 14544, each empty container must be pressure tested at 120 psig instead of the HMR requirement that each empty container must be subjected to a pressure equal to or in excess of the maximum expected in the filled containers at 55 °C (131 °F), and that is at least two-thirds of the design pressure of the container. Under both tests, if there is evidence of leakage, the container must be rejected. In this final rule, we are adopting the provisions of the SP as proposed to authorize the

use of a leakage test as a means to determine compliance with pressure requirements. Our implementation differs from the SP in that we are adopting the leakage testing requirements under § 173.306(a)(5)(v), but including the SP 14544 testing protocol for empty containers as an alternative.

Accumulators.

The HMR provide special considerations for compressed gases in accumulators. SP 8786 authorizes the transport of accumulators under an alternative testing procedure than what is prescribed in paragraphs (f)(2) and (f)(3) of this section. Rather than testing each accumulator to three times (3x) the charge pressure, the SP provides for conditions to test one accumulator out of each lot of 1,000 to the burst design pressure, and two accumulators to two and a half times (2.5x) the charge pressure. In the NPRM, we proposed to adopt most of SP 8786 into § 173.306. Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

Aerosol disposal.

The general packaging requirements of the HMR forbid the transport of leaking or improperly-filled packages. This includes aerosol containers that are found to be leaking or improperly filled as part of a combination packaging. SP 11296 provides an option to transport these containers to an offsite facility for disposal under certain conditions (e.g., overpacking in DOT specification packagings, modal restrictions, etc.). In the NPRM, we proposed to adopt the general scope of SP 11296 with some differences. We proposed to also permit non-flammable aerosols. Further, the proposed regulatory language was modeled after the salvage packaging requirements of § 173.3(c) in that: (1) the authorized outer packaging for overpacking the defective cylinders has been expanded to include other metal drums (i.e., 1B2 and 1N2); (2) a

condition for cushioning and absorbent material, when necessary, has been added; and (3) an “aerosol salvage” drum marking has been adopted. Commenters were very supportive of our proposals to adopt such provisions for aerosol disposal and, in this final rule, we are codifying them as proposed.

Part 178

Section 178.33c

Under the HMR, certain DOT specification containers with restricted capacity and commonly referred to as “aerosol containers” are authorized for the transportation of compressed and liquefied compressed gases under certain scenarios. These containers include DOT 2P (inner non-refillable metal) containers. The specification standards are prescribed in § 178.33 of the HMR and do not provide for variations of those standards. Thus, technological advances or design modifications to satisfy customer needs are such that the resulting metal containers would not conform to the standards for a DOT 2P container, nor any other container authorized under §§ 173.304 or 173.306 of the HMR. SPs 13601 and 14503 (also 7951) provide for a variation of the DOT 2P container specifications by authorizing construction of the container according to modifications of the standards for manufacture and testing.

The special permits authorized variations of a DOT 2P container that are equipped with some manner of pressure relief system (e.g., a rim-vent release device or a dome expansion device). The rim vent release devices must function within a certain pressure range, otherwise the container is rejected. The dome expansion devices are designed to buckle to relieve pressure before bursting. For example, for a container built to SP 13601, the pressure relief system must function between 175 psig and 210 psig or be rejected.

In the NPRM, we stated that we have no specific information in the SP(s) on the relationship between the functional range and the tested burst pressure. The current minimum burst pressure for a DOT 2P container is 240 psig (§ 178.33-8). Using the SP 13601 construction requirements, the minimum burst pressure is indicated as 270 psig (assumed at 130 °F) and pressure of the contents at 130 °F may not exceed 160 psig thus, equating to approximately 1.7x the contents at 130 °F without bursting (which is more stringent than for a DOT 2P under the HMR). Thus, the upper pressure range of the relief system is 77.8% of the design burst pressure of 270 psig.

This is further complicated under SP 14503 (and 7951) where the standard for the pressure of the contents is set at 23.9 °C (75 °F) for which we do not have an equivalent requirement under the HMR. Additionally, the ranges for functioning of the relief systems have a higher upper bound, 175 psig to 250 psig and 175 psig to 235 psig, respectively. Lastly, there is no minimum burst pressure specified in SP 14503 (and 7951); therefore, we must default to the DOT 2P minimum burst pressure of 240 psig. Again, the circumstances are unclear in that the upper bounds for the functional ranges approach or exceed the DOT 2P minimum burst pressure yet we do not have information on the actual tested burst pressure which could be much larger. Therefore, based on the requirements of SP 13601, we proposed to implement a requirement that for containers with pressure relief systems, the upper bound of the functional range for a pressure relief system must be no greater than 85 % of the minimum burst pressure. In the NPRM, we proposed to incorporate the standards for the modified DOT 2P container described in SP 13601 (and likely 14503 (7951)) as a variation of the DOT 2P container design. As adopted in this final rule, the variation is required to be marked as a “DOT 2P1.” All

standards for a DOT 2P1 remain the same as those for a DOT 2P except for the variations prescribed in new § 178.33c-2.

Commenters expressed concerns about imposing pressure limits on the range of the pressure relief systems although there are various pressure limits in each special permit that incorporates a rim vent release type of device in the container design. The commenters state that the actual activation range of the pressure relief system design is not as important to safety as that the system must function before the container bursts. We agree with the commenters. In the testing requirement of DOT 2P1, the performance standard is that the containers must fail at the location of the pressure relief system or the lot will be rejected. PHMSA believes that incorporating the DOT 2P1 without a specific functional range or limit for a rim vent release system will make the container specification more suitable for incorporation into the HMR because of broader applications rather than prescriptive regulatory text based on specific special permits. In this final rule, PHMSA will incorporate the requirements for the end expansion devices as proposed. The containers with an end expansion device must buckle prior to burst.

Section 178.33d

Under the HMR, certain DOT specification containers with restricted capacity and commonly referred to as “aerosol containers” are authorized for the transportation of compressed and liquefied compressed gases under certain scenarios. These containers include DOT 2Q (inner non-refillable metal) containers. Though the DOT 2Q specification is prescribed in § 178.33a of the HMR, it does not provide for variations of those standards. Thus, technological advances or design changes to satisfy customer needs are such that the resulting metal containers would not conform to the standards of a DOT 2Q container, nor any other container authorized

under either §§ 173.304 or 173.306 of the HMR. SP 12573 provides for a variation of the DOT 2Q container specifications by authorizing construction of the container according to modifications to the standards for type and size, manufacture, wall thickness, and testing.

SP 14503 also provides for a variation of the DOT 2Q container specification by authorizing construction of the container according to modifications to its manufacture and testing criteria.

Variations provided in the SPs for DOT 2Q containers require that they are equipped with some type of pressure relief system (e.g., a rim-vent release device or a dome expansion device), that must function by a certain threshold level or within a certain pressure range, otherwise the container is rejected. In effect, these containers are designed to buckle to relieve pressure before bursting. For example, for a container built to SP 12573, the minimum pressure before the system buckles is 220 psig (and if not equipped with a pressure relief system, the container may not burst below 320 psig). The maximum pressure of the contents authorized under this SP is 198 psig at 54.4 °C (130 °F) (in the NPRM, we proposed a maximum pressure of 200 psig based on this SP in the § 173.306 discussion for DOT 2Q containers). After reviewing comments to the NPRM, we will adopt a maximum pressure of 210 psig at 55 °C (131 °F) in this final rule. The current requirements for a DOT 2Q container under § 173.306(a)(3)(ii) is that the pressure of the contents cannot exceed 180 psig at 54.4 °C (130 °F) and the container must be capable of withstanding a pressure of 1.5x the contents at 54.4 °C (130 °F) without bursting. Applying the same multiplier to 210 psig, the container must withstand at least 305 psig without bursting. The SP 12573 minimum burst pressure of 320 psig is more than the current required minimum burst pressure of 270 psig for a DOT 2Q container; however, it provides approximately the same safety factor of 1.52. In this final rule, we are adopting as proposed the standards for the

modified DOT 2Q container found in SP 12573 as a variation of the DOT 2Q container design. This variation is required to be marked “DOT 2Q1.”

The requirements under SP 14503 operate differently in that the standard for the pressure of the contents is set at 23.9 °C (75 °F) to which we do not have an equivalent requirement under the HMR. Additionally, the SP provides for a range of pressure for functioning of the relief systems, specifically, 180 to 300 psig. Lastly, there is no minimum burst pressure specified in SP 14503 so we must default to the DOT 2Q minimum burst pressure of 270 psig. The upper bound for the functional range exceeds the 2Q minimum burst pressure yet we do not have information on the actual tested burst pressure which could be much larger. Therefore, based on a similar proposal to implement provisions of SP 13601 for 2P containers (see § 178.33c preamble discussion), the upper bound of the functional range for a pressure relief system must be no greater than 80 % of the test pressure. In the NPRM, we invited comment on using this approach and whether it would be preferable to implement a requirement for the upper bound of the range based on the pressure of the contents.

Commenters did not respond specifically to the question of functional range for the DOT 2Q1 or 2Q2; however, they expressed concerns about imposing pressure limits on the range of the pressure relief systems of the DOT 2P1 which incorporates a similar pressure relief system design. The commenters state that the actual activation range of the pressure relief system design is not as important to safety as that the system must function before the container bursts. We agree with the commenter. We are imposing the same testing requirement as that for the DOT 2P1 in that the containers must fail at the location of the pressure relief system or the lot will be rejected. The containers with an end expansion device must buckle prior to burst.

In this final rule, we are adopting as proposed the standards for the modified DOT 2Q container described in SP 14503 as a variation on the DOT 2Q container design. This variation is required to be marked as a “DOT 2Q2.” Further, the pressure relief device requirements for the DOT 2Q2 will be the same as that for the DOT 2P1 and 2Q1.

C. Cargo Tanks/Rail Cars/Portable Tanks

Part 173

Section 173.315

Section 173.315 prescribes bulk packaging provisions for liquefied compressed gases in UN and DOT specification cargo tanks and portable tanks.

SP 12576 authorizes non-DOT specification cargo tanks for the transportation of “UN1080, Sulfur hexafluoride” that otherwise conform to the MC 331 specifications except for design pressure, capacity, and marking. In the NPRM, we proposed to revise the § 173.315(a)(2) table by referring to a new note 28 in the entry for “Division 2.2, materials not specifically provided for in this table” as Sulfur hexafluoride is not listed by name in the table. New note 28 codifies such tanks specified in SP 12576 for the transportation of sulfur hexafluoride. Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

Section 173.319

Section 173.319 prescribes the loading and packaging provisions for cryogenic liquids transported in rail tank cars.

SP 12039 authorizes the transportation in commerce of DOT 113C120W rail tank cars containing “UN1038, Ethylene, refrigerated liquid,” at an internal pressure of 20 psig instead of the maximum 10 psig. Currently, the HMR authorizes a maximum of 10 psig in a DOT 113C120W rail tank car containing cryogenic ethylene when offered for transportation by rail. Because we did not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

D. Operational Air/Vessel

Part 176

Section 176.90

Section 176.90 prescribes requirements for private automobiles carrying Class 1 hazardous materials on board ferry vessels. There are four SPs that provide relief for ferry transport of private automobiles carrying engines, gasoline, and propane. SP 7465, 11150, 13213, and 14458 all contain slightly different provisions to facilitate this process safely. Where differences exist between these permits, PHMSA has attempted to choose the least restrictive provision for adoption.

In the NPRM, PHMSA proposed to renumber the existing paragraph in § 176.90 as paragraph (a), and add a new paragraph (b) to adopt an exception for “UN3166, Engines, internal combustion, flammable gas powered or flammable liquid powered, including when fitted in machinery or vehicles (i.e. motor vehicles, recreational vehicles, campers, trailers), vehicle flammable liquid or flammable gas powered, gasoline, and petroleum gases, liquefied or liquefied petroleum gas” when included as part of a motor home, recreational vehicle, camper, or trailer and carried aboard ferry vessels subject to certain operational controls. Because we did

not receive public comment on this amendment, supportive or otherwise, it is adopted as proposed in the NPRM.

Section 176.800

Section 176.800 of the HMR prescribes general vessel stowage requirements for corrosive materials.

SP 11691 authorizes transportation in commerce of certain flammable and corrosive liquids, which are the ingredients of soft drinks (beverages), not subject to the segregation requirements for vessel stowage when shipped in the same transport unit. In the NPRM, we proposed to add a new special provision, W11, to § 172.102, regarding vessel segregation of corrosive and combustible materials and foodstuffs. Based on comments from PCSD, proposed Special provision W11 is being replaced by revising paragraph (a) of § 176.800 to allow Class 8 (corrosive) materials that are also foodstuffs or foodstuff ingredients intended for human consumption to not be considered incompatible for segregation purposes.

E. Operational Highway/Rail/Shipper/Other

Part 171

Section 171.8

Section 171.8 defines terms generally used throughout the HMR that have broad or multi-modal applicability.

In the NPRM, PHMSA proposed to add the following definition based on the adoption of SP 11458:

Display pack means a package intended to be placed at retail locations which provide direct customer access to consumer commodities contained within the package when all or part of the outer fiberboard packaging is removed.

SP 11458 authorizes the transportation in commerce of display packs of consumer commodity packages or limited quantity packages that exceed the 30 kg gross weight limit. The provisions of SP 11458 were proposed for adoption into § 173.156. However, the term “display pack” is not currently defined in the HMR. In the NPRM we proposed to adopt the definition of “display pack” in § 171.8 based upon its definition in SP 11458. Commenters were very supportive of our proposal to adopt a definition of display packs in § 171.8 and, in this final rule, we are codifying it as proposed.

Part 172

Sections 172.101 (Hazardous Materials Table) and 172.102 Special Provisions

Section 172.101 provides instructions for using the Hazardous Materials Table (HMT) and the HMT itself. Column 7 of the HMT provides codes for special provisions applicable to specific hazardous materials descriptions. Special provisions may contain unique packaging requirements, prohibitions, and exceptions applicable to particular quantities or forms of hazardous materials. When Column 7 of the HMT refers to a special provision, the requirements of that special provision are as set forth in § 172.102. In the NPRM, PHMSA proposed the following revisions to § 172.102:

Special Provision 380

SP 10705 provides relief from the segregation requirements of § 177.848(d) for the transport of “UN1092, Acrolein, stabilized,” by private carrier in a motor vehicle. In the NPRM,

PHMSA proposed to add Special Provision 380 to § 172.102(c)(1) to codify SP 10705. The SP prescribes the packaging that must be used and the materials in which it may be loaded. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Special Provision 381

SP 7991 provides relief from the HMR for the transportation of railroad flagging kits by highway. See § 173.184 for a detailed discussion of the adoption of SP 7991. In the NPRM, PHMSA proposed to add Special Provision 381 to § 172.102(c)(1) to codify SP 7991. As adopted in this final rule, Special Provision 381 will be assigned to the following HMT entries: Fusee (rail or highway) (NA1325, Division 4.1, PG II); Articles, pyrotechnic (UN0431, Division 1.4G, PG II); Signal Devices, hand (UN0373, Division 1.4S, PG II); Signal Devices, hand (UN0191, Division 1.4G, PG II); and Signals, railway track, explosive (UN0193, Division 1.4S, PG II). Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Special Provision 382

SP 8006 provides relief from the labeling requirements of § 172.400(a) for the transportation of toy plastic or paper caps for toy pistols by motor vehicle, railcar, cargo vessel, and cargo aircraft. See § 172.400a(a)(8) for a detailed discussion of the adoption of SP 8006. In the NPRM, PHMSA proposed to add Special Provision 382 to § 172.102(c)(1) to codify SP 8006. Special Provision 382 will be assigned to the following HMT entries: Articles, explosive, n.o.s. (UN0349) and Toy caps (NA0337). Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Special Provision 383

SP 11356 authorizes material meeting the conditions for high viscosity flammable liquids specified in § 173.121(b)(1)(i), (b)(1)(ii), and (b)(1)(iv), to be re-classed to Packing Group III for transportation by motor vehicle. In the NPRM, PHMSA proposed to add Special Provision 383 to § 172.102(c)(1) to codify SP 11356. The SP prescribes packaging, capacity limitations, and load securement requirements. Special Provision 383 will be assigned to the following HMT entries: Coating solution (UN1139, PG II) and Paint (and Paint related material) (UN1263, PG II). Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Special Provision 384

SP 11666 authorizes the transportation of green graphite electrodes and shapes that are large single component solid objects not subject to sifting, in open rail flat cars, open bed motor vehicles, and intermodal containers. In the NPRM, PHMSA proposed to add Special Provision 384 to § 172.102(c)(1) to codify SP 11666. The SP prescribes load securement requirements for the electrodes and shapes. Further, the SP permits stacking two or more levels high to achieve maximum allowable utilization of the designated vehicle, rail car weight, or intermodal freight container weight or vessel hold volume. Special Provision 384 will be assigned to the following HMT entries: Other regulated substances, n.o.s. (NA3077, PG III) and Environmentally hazardous substances, solid, n.o.s. (UN3077, PG III). In this final rule, we are adopting the amendments as proposed with minor editorial clarifications.

Special Provision 385

SP 13343 authorizes the use of cargo heaters when weather conditions are such that the freezing of certain wetted explosive material is likely. In the NPRM, PHMSA proposed to add Special Provision 385 to § 172.102(c)(1) to codify SP 13343. Transportation must be performed

by private, leased or contract carrier vehicles in exclusive use. Further, cargo heaters must be reverse refrigeration (heat pump) units. Shipments made in accordance with the SP are excepted from the anti-freeze requirements of § 173.60(b)(4). The provisions of SP 13343 are specific to “UN0394, Trinitroresorcinol, wetted or Styphnic acid, wetted with not less than 20 % water, or mixture of alcohol and water by mass”; therefore, Special Provision 385 will be assigned exclusively to those HMT entries. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Special provision 386

In the NPRM, we proposed to codify SP 6614 by establishing a new paragraph (b)(3) to authorize polyethylene bottles with rated capacities of one gallon (3.785 liters), packed inside an open-top, heavy wall, high density polyethylene box for shipping certain PG II and III corrosive liquids by private motor carrier. In this final rule, we are adopting SP 6614 as proposed; however, we are moving the amendment from paragraph (b) to new § 172.102(c)(1), Special provision 386, as it is a more appropriate location in the HMR for it.

Special Provision B130

SP 14525 provides relief from the HMR except for the shipping paper requirements of Subpart C of Part 172, emergency response information as required by § 172.602, and the marking requirements of § 172.302(a), (b), and (d) when transporting used diatomaceous earth filter material by highway. In the NPRM, PHMSA proposed to add Special Provision B130 to § 172.102(c)(3) to codify SP 14525. The SP prescribes packaging, quantity limitations, and the required method of storing the packages within the motor vehicle. The provisions of SP 14525 are specific to “UN3088, Self-heating solid, organic, n.o.s” (PG III); therefore, Special Provision

B130 will be assigned exclusively to that HMT entry. Because we received minimal public comment on the proposal, in this final rule, we are adopting the amendment as proposed.

Special Provision B131

As previously discussed, SP 11624 was not proposed for adoption in the NPRM. The SP is in its fifteenth revision and has 114 grantees. The SP authorizes transportation in commerce of certain waste Class 3 paint and paint related material (UN1263; PG II and PG III) contained in metal or plastic pails further packed in non-specification bulk packagings such as cubic yard boxes, plastic rigid-wall bulk containers, dump trailers, and roll-off containers. After careful reevaluation, SP 11624 and three related packaging SPs (i.e., SP 13052, SP 14712, and 15235) are adopted as new § 172.102(c)(3), Special Provision B131.

Special Provision B132

SP 11602 authorizes the transportation in commerce of certain Division 4.3 materials contained in sift-proof closed bulk packagings that prevent water from reaching the hazmat and have sufficient venting to preclude a dangerous accumulation of gaseous emissions. In the NPRM, we proposed to adopt the provisions of SP 11602 in its entirety in § 173.151(g). Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed. However, in this final rule, we are moving the amendment to new § 172.102(c)(3), Special provision B132 as it is a more appropriate section for these provisions.

Section 172.202

Section 172.202 prescribes requirements for describing hazardous materials on shipping papers. In many scenarios, a net or gross quantity of the hazardous materials must be included.

SP 11811 provides relief from this requirement for local collections operations transporting hazardous materials and hazardous substances by highway that are "household wastes" as defined in 40 CFR 261.4 and not subject to the Environmental Protection Agency's hazardous waste regulations in 40 CFR, Parts 262 and 263. In the NPRM, we proposed to revise paragraph (c) of § 172.202 to adopt the provisions of SP 11811 in its entirety. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 172.315

Section 172.315 prescribes marking requirements for packages of limited quantities of hazardous materials.

SP 11197 provides relief from the requirement to display the limited quantity marking on packages containing certain low-risk materials assigned to PG II and III prepared in accordance with the limited quantity provisions in Subpart B of part 173 of the HMR for highway transportation by private motor carrier. The SP prescribes inner packaging and package quantity limitations; the maximum gross weight of packages that may be transported in one vehicle; and special package marking requirements. In the NPRM, we proposed to add a new paragraph (a)(3) to § 172.315 to adopt the provisions of SP 11197 in its entirety. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 172.400a

Section 172.400a provides exceptions from the § 172.400 general labeling requirements for packages or containment devices of hazardous materials.

SP 8006 provides relief from the § 172.400 general labeling requirements for toy plastic or paper caps for toy pistols described as “UN0349, Articles, explosive, n.o.s. (Toy caps), 1.4S” or “NA0337, Toy caps, 1.4S” when offered for transportation by motor vehicle, rail freight, cargo vessel, and cargo aircraft. The toy plastic or paper caps must have been examined in conformance with § 173.56 and approved by the Associate Administrator. In the NPRM, we proposed to add a new paragraph (a)(8) to § 172.400a to adopt the provisions of SP 8006 in its entirety. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Part 173

Section 173.12

Section 173.12 provides certain exceptions and authorizations for the transportation of waste hazardous materials.

SP 11470 authorizes transportation by motor vehicle and cargo vessel of shrink-wrapped pallets containing boxes of waste ORM-D or limited quantity materials when marked with the word “WASTE” on the outside of the pallet instead of each individual box. The SP also prescribes packaging requirements for the waste materials. COSTHA requested that PHMSA adopt this SP into the HMR under petition for rulemaking P-1611. In the NPRM, we proposed to add a new paragraph (h) to § 173.12 to adopt the provisions of SP 11470 in its entirety. Because of the supportive public comments received as a result of our proposal, in this final rule,

we are adopting the amendments as revised. Based on comments from Veolia, the revisions include authorizing “stretch-wrapped” pallets in addition to shrink-wrapped pallets and “packages” rather than boxes only.

Section 173.29

Section 173.29 prescribes certain requirements, exceptions, and authorizations for the transportation of empty packagings.

SP 9610 provides relief from shipping paper and placarding requirements of Subparts C and F of part 172, respectively, for smokeless powder residue when transported by motor vehicle or railcar in “Container-on-flat-car” (COFC) or “Trailer-on-flat-car” (TOFC) service. The smokeless powder must be approved in conformance with § 173.56 as a Class 1 explosive substance. The SP prescribes packaging requirements, quantity limitations, operational controls, and a specific shipping description for the material. In the NPRM, we proposed to revise paragraph (f) of § 173.29 to adopt the provisions of SP 9610 in its entirety. Because of the supportive public comments received as a result of our proposal, in this final rule, we are adopting the amendments as proposed with minor revisions to allow additional packaging types.

Section 173.63

Section 173.63 provides packaging exceptions for certain Class 1 (explosive) materials.

SP 4850 authorizes Cord, detonating, or Fuse detonating, metal clad (UN0290, Div. 1.1D) to be renamed and reclassified as Cord, detonating, mild effect, or Fuse, detonating, mild effect, metal clad (UN0104, Div. 1.4D); and Charges, shaped, flexible, linear (UN0288, Div. 1.1D) to be renamed and reclassified Charges, shaped, flexible, linear (UN0237, Div. 1.4D) and

transported by motor vehicle, railcar, cargo vessel, and cargo aircraft. The SP prescribes packaging requirements and quantity limitations. In the NPRM, we proposed to revise paragraph (a) of § 173.63 to adopt the provisions of SP 4850 in its entirety. However, during review of the final rule, concerns that there was insufficient hazard communication to prevent the reclassified shipments from finding their way into the air mode were raised. In addition, concerns regarding the distinctions between shipping being offered domestically versus internationally were discussed. Because additional conditions for its adoption were not proposed in the January 30, 2015 NPRM, in this final rule, we are not codifying SP 4850 into the HMR at this time but intend to consider it for incorporation in the near future considering the hazard communication concerns. We will include any proposals in upcoming NPRMs for comment.

Section 173.156

Section 173.156 provides exceptions for the transportation of certain limited quantities and other regulated materials (ORM).

SP 11458 authorizes display packs of consumer commodity packages that exceed 30 kg gross weight for transportation by railcar in trailer-on-flat-car (TOFC) or container-on-flat-car (COFC) service, or roadrailer and/or railrunner trailers or by motor vehicle, or cargo vessel. See § 171.8 for a discussion of the addition of the definition of display pack. In a petition for rulemaking (P-1607), COSTHA requested PHMSA adopt this SP into the HMR. In the NPRM, we proposed to add a new paragraph (c) to § 173.156 to adopt the provisions of SP 11458 in its entirety. Because of the supportive public comments received as a result of our proposal, in this final rule, we are adopting the amendment as proposed.

SP 11470 authorizes transportation by motor vehicle and cargo vessel of shrink-wrapped pallets containing boxes of waste ORM-D or limited quantity materials when marked with the word “WASTE” on the outside of the pallet instead of each individual box. The adoption of SP 11470 relating to exceptions for waste limited quantity and ORM-D materials is discussed in the preamble for § 173.12. In the NPRM, we proposed to add a new paragraph (d) to § 173.156 that directs the reader to the new paragraph (h) of § 173.12 which codifies the provisions of SP 11470. Because of the supportive public comments received as a result of our proposal, in this final rule, we are adopting the amendment as proposed with one modification. Veolia supports adoption of SP 11470 with one substantial modification—the HMR should not limit to “expired” consumer products but rather all consumer commodities shipped for disposal/recycling under manufacturer recalls, off-spec/unwanted/unneeded product, etc. We recognized the merit of Veolia’s comment and revised § 173.12 accordingly.

Section 173.159

Section 173.159 prescribes requirements for the transportation of wet electric storage batteries.

SP 11078 conditionally excepts the transportation of nickel cadmium batteries containing potassium hydroxide, a Class 8 material, from other requirements of the HMR when transported by motor vehicle, railcar, cargo vessel and passenger and cargo aircraft. In the NPRM, we proposed to add a new paragraph (j) to § 173.159 to codify the provisions of SP 11078 in its entirety. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

SP 13548 authorizes transportation in commerce of lead acid batteries and packages of battery acid (with two different identification numbers) on the same vehicle. Commenters were supportive of its adoption in the HMR. In this final rule, the introductory text in paragraph (e) is revised accordingly.

Section 173.168

Section 173.168 prescribes specific approval, testing, protection, packaging, and equipment marking requirements for chemical oxygen generators.

SP 11984 authorizes certain unapproved chemical oxygen generators with only one positive means of preventing unintentional actuation of the generator, and without the required approval number marked on the outside of the package, to be transported by motor vehicle, railcar, and cargo vessel. In the NPRM, we proposed to add a new paragraph (g) to § 173.168 to adopt the provisions of SP 11984 in its entirety. Veolia supports adoption of SP 11984 with one modification—the HMR should require flame-proof outer packaging for chemical oxygen generators shipped with only one positive means of preventing unintentional activation as expressed in concern for equivalent level of safety in proposed SP modification in August 2011. Veolia’s comments notwithstanding, because of the mainly supportive public comment received and safety evaluation as a result of our proposal, in this final rule, we are adopting the amendment as proposed.

Section 173.184

Section 173.184 prescribes packaging requirements for the transportation of highway or rail fusees.

When in conformance with SP 7991, flagging kits transported on railroad motor vehicles including privately-owned motor vehicles under the direct control of on-duty railroad employees, are excepted from the requirements of the HMR. Flagging kits may only contain fusees and railroad torpedoes described as: Fusee (rail or highway) (NA1325, Division 4.1, PG II); Articles, pyrotechnic (UN0431, Division 1.4G, PG II); Signal devices, hand (UN0373, Division 1.4S, PG II); Signal devices, hand (UN0191, Division 1.4G, PG II); and Signals, railway track, explosive (UN0193, Division 1.4S, PG II). This SP prescribes packaging requirements, quantity limitations, and operational controls. In the NPRM, we proposed to add a new paragraph (c) to § 173.184 to adopt the provisions of SP 7991 in its entirety. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 173.226

Section 173.226 prescribes specific packaging requirements for the transportation of materials poisonous by inhalation, Division 6.1, PG I, Hazard Zone A.

When transported as prescribed in SP 11055, liquid hazardous materials in Division 6.1, PG I, Hazard Zone A, are excepted from the segregation requirements of §§ 174.81, 176.83, and 177.848(d). The SP prescribes packaging and testing requirements, quantity limitations, and cushioning and absorbent material requirements. In the NPRM, we proposed to add a new paragraph (f) to § 173.226 to adopt the provisions of SP 11055 in its entirety. Because we did

not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 173.306

Section 173.306 provides exceptions for limited quantities of compressed gas. Section 173.306(e) currently permits only new (unused) refrigerating machines to be excepted from specification packaging, placarding, and certain rail and highway modal requirements.

SP 13199 permits reconditioned (used) refrigerating machines (UN2857, Div. 2.2) to be transported under the requirements prescribed in § 173.306(e) and excepted from the marking requirements of § 172.302(c) when transported by motor vehicle and meeting certain structure and Class A refrigerant gas weight requirements. In the NPRM, we proposed to add new paragraph (e)(2) to § 173.306 to adopt the provisions of SP 13199 in its entirety. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 173.322

Section 173.322 prescribes packaging requirements for ethyl chloride. In the January 30, 2015 NPRM, we proposed to add a new paragraph (f) to § 173.322 to adopt the provisions of SP 14422 in its entirety. Because SP 14422 is no longer an active special permit, in this final rule, we are not adopting the amendment as proposed.

Part 174

Section 174.67

Section 174.67 prescribes operational requirements for the railroad tank car unloading of hazardous materials.

SP 12002 authorizes the clearing of frozen liquid blockages from tank car outlets by attaching a fitting to the outlet line and applying nitrogen at a pressure of 50 to 100 psi for combustible liquid or Class 3 liquid petroleum distillate fuels. In the NPRM, we proposed to revise paragraph (g) to § 174.67 to adopt the provisions of SP 12002 in its entirety. In its comments, ACA recommends that the use of nitrogen should be permitted “at a pressure of up to 100 psi” for clarity. We agree and revise § 174.67(g) accordingly.

Part 177

Section 177.820

Currently there is no § 177.820 in the HMR. However, in the NPRM, we proposed to add a new § 177.820 that authorizes the movement of certain hazardous materials across public roads with limited exceptions.

SPs 11352, 12207, 12306, 13165, and 14945 authorize the movement of certain hazardous materials across public roads. Such movements are not subject to Subparts C (Shipping Papers), D (Marking), E (Labeling), and F (Placarding) of Part 172. The SPs prescribe specific operational controls. In the NPRM, we proposed to add a new § 177.820 to adopt the provisions of these SPs in their entirety. COSTHA and DGAC support the adoption of SPs 11352, 12207, 12306, 13165, and 14945; however, according to COSTHA, the proposed regulatory text in § 177.820 appears to be more restrictive than the HMR applicability exceptions currently in § 171.1(d)(4). We agree with COSTHA and are not adopting the five SPs and new Section 177.820 as proposed in the NPRM.

Section 177.834

Section 177.834 establishes general operational requirements for hazardous materials transportation by highway.

SPs 9874, 13190, 13424, 13959, 14141, 14150, 14680, 14822, 14827, and 14840 authorize “attendance” of the loading or unloading of a cargo tank by a qualified person observing all loading or unloading operations by means of video cameras and monitors or instrumentation and signaling systems such as sensors, alarms, and electronic surveillance equipment located at a remote control station. In the NPRM, we proposed to revise paragraphs (i)(3) and (i)(4) of § 177.834 to adopt the provisions of these SPs in their entirety.

In its comments, Dow supports codification of the SPs but has specific concerns: (1) SP 9874 and 14822 authorize instrumentation and signaling systems such as sensors, alarms, and electronic surveillance equipment in addition to video monitoring; (2) SPs 9874 and 14822 do not require a video camera with a “motorized zoom lens capable of panning and zooming from the remote control station”; (3) SPs 9874 and 14822 do not require that the view capability must include the entire containment area; and (4) the need for assurance that the attendance requirements in § 177.834 (i) apply to motor carriers only. We agree that Dow’s comments have merit and, in this final rule, except for number (4), the regulatory text in § 177.834(i) is revised accordingly. Regarding issue number (4), long-standing interpretations preclude the need to revise the attendance applicability provisions of the HMR.

SPs 13484 and 14447 authorize “attendance” of the loading or unloading of a cargo tank through the use of hoses equipped with cable connected wedges, plungers, or flapper valves located at each end of the hose, able to stop the flow of product from both the source and the

receiving tank within one second without human intervention in the event of a hose rupture, disconnection, or separation. The SPs prescribe inspection requirements and operational controls for use of the hoses. In the NPRM, we proposed to revise paragraphs (i)(3) and (i)(4) of § 177.834 to adopt the provisions of SPs 13484 and 14447 in their entirety. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendments as proposed.

SPs 10597, 10803, 10882, 14618, and 14726 authorize the use of diesel or propane fueled combustion cargo heaters in motor vehicles used to transport Class 3 (flammable liquid) or Division 2.1 (flammable gas) materials. The SPs prescribe operational controls for use of heaters. In the NPRM, we proposed to revise paragraph (l)(2)(i) of § 177.834 to adopt the provisions of these SPs in their entirety. In this final rule, because the existing paragraph (l)(2)(ii) of § 177.834 relating to the Effective date for combustion heater requirements is obsolete, we are removing it as proposed. In addition, we are redesignating paragraph (l)(2)(iii) of § 177.834 as paragraph (l)(2)(ii) as proposed in the NPRM. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 177.838

Section 177.838 prescribes operational requirements for the transportation of Class 4 (flammable solid) materials, Class 5 (oxidizing) materials, and Division 4.2 (self-heating and pyrophoric liquid) materials.

Notwithstanding the segregation requirements of § 177.848(d), SP 11373 authorizes the transport on the same transport vehicle of “UN1384, Sodium hydrosulfite or sodium dithionite”

(PG II or III), “UN3341, Thiourea dioxide” (PG II or III); and “UN3088, Self-heating, solid, organic, n.o.s.” (PG II or III) with Class 8 materials. The SP prescribes packaging and separation requirements. In the NPRM, we proposed to revise the title of § 177.838 and add a new paragraph (i) to § 177.838 to adopt the provisions of SP 11373 in its entirety. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 177.840

Section 177.840 establishes specific operational requirements for the transportation of Class 2 (gases) materials.

Notwithstanding the segregation requirements of § 177.848(d), SP 11043 authorizes the transport on the same transport vehicle of Division 2.3, Hazard Zone A materials with materials classed as Division 2.1, Class 3, Class 4, Class 5, and Class 8. The SP prescribes packaging, marking, separation requirements.

Notwithstanding the segregation requirements of § 177.848(d), SP 14335 authorizes the transport on the same transport vehicle of Division 2.3, Hazard Zone A materials with specification non-bulk packagings and IBCs containing only the residue of Division 2.1, 4.3, 5.1, and Class 3 and 8 materials. The SP prescribes separation and securement requirements, operational controls, quantity limitations, and carrier safety rating requirements.

In the NPRM, we proposed to add a new paragraph (a)(3) to § 177.840 to adopt the provisions of SPs 11043 and 14335 in their entirety. Veolia supports the adoption of SP 11043; however, they recommend the regulatory text proposed in § 177.840(a)(3)(i) should be revised to

require a 4-foot separation rather than a 5-foot separation for consistency with the segregation spacing requirements in § 173.12(e). We agree and are revising § 177.840(a)(3)(i) accordingly.

Section 177.841

Section 177.841 establishes specific operational requirements for the transportation of Division 6.1 and Division 2.3 materials.

Notwithstanding the segregation requirements of § 177.848(d), SP 11151 authorizes transportation by private or contract motor carrier of Division 6.1 PG I, Hazard Zone A materials meeting the definition of a hazardous waste as defined in § 171.8 on the same transport vehicle with materials classed as Class 3, Class 4, Class 5, and Class 8. The Division 6.1 PG I, Hazard Zone A materials must be loaded on pallets and separated from the Class 3, Class 4, Class 5, and Class 8 materials by a minimum horizontal distance of 2.74 m (9 feet). In the NPRM, we proposed to add a new paragraph (f) to § 177.841 to adopt the provisions of SP 11151 in its entirety. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

F. Non-Bulk Packaging Specifications/IBCs

Part 172

Section 172.101

The § 172.101 HMT designates the materials listed therein as hazardous materials for the purpose of transportation of those materials. For each listed material, the HMT identifies the hazard class or specifies that the material is forbidden in transportation, and provides the proper shipping name or directs the user to the preferred proper shipping name. In addition, the HMT

specifies or references requirements in this subchapter pertaining to labeling, packaging, quantity limits aboard aircraft, and stowage of hazardous materials aboard vessels. In the NPRM, we proposed to revise several entries in the HMT to adopt SPs relating to non-bulk packagings and IBCs. Specifically, for “UN1415, Lithium,” “UN2257, Potassium,” “UN3190, Self-heating solid, inorganic, n.o.s.,” “UN1428, Sodium,” “UN1381, Phosphorus, yellow, under water” and “UN2813, Water-reactive solid, n.o.s.” (Packing Group II and III), we proposed to add a reference to § 173.151 to provide packaging exceptions for relevant Hazard Class 4 materials. In this final rule, the provisions adopted for “UN1381, Phosphorus, yellow, under water” and “UN2813, Water-reactive solid, n.o.s.” (Packing Group II and III) are moved to the more appropriate §§173.188 and the new § 172.102(c)(3), Special provision B132 respectively. The revisions are discussed in the following sections.

Part 173

Section 173.62

Section 173.62 prescribes packaging instructions for explosives.

SP 12335 authorizes the transportation by motor vehicle, cargo vessel, and cargo aircraft when authorized in the HMT, and passenger-carrying aircraft when authorized for carriage by the HMT and used exclusively to transport personnel to remote work sites certain Division 1.1D and 1.4D detonating cords without the ends being sealed in alternative packaging, provided that the inner packaging containing the detonating cord is made of a static-resistant plastic bag of at least 3 mil thickness and the bag is securely closed for transportation. In the NPRM, we proposed to adopt the provisions of SP 12335 in its entirety in § 173.62. Because we did not

receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 173.150

Section 173.150 provides exceptions from the HMR for certain Class 3 (flammable liquid) material.

To codify SP 13217, in the NPRM, PHMSA proposed to add a paragraph (h) to § 173.150 that included an exception to permit Diesel fuel (UN1202 or NA1993) and Gasoline (UN1203) to be transported one way, by motor vehicle, directly from the loading location to an equipment repair facility in non-specification non-bulk packaging, known as a gasoline dispenser. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 173.151

Section 173.151 provides exceptions for certain Class 4 materials.

In the NPRM, we proposed to add new paragraph (e) that would except “UN1415, Lithium,” “UN2257, Potassium,” and “UN1428, Sodium,” with a net quantity of material per inner packaging not exceeding 25 grams, from the labeling requirements of Part 172, Subpart E and the placarding requirements of Part 172 Subpart F, if they are offered for transportation or are transported in the packagings with conditions set forth in that paragraph. We also proposed to codify SP 11736 by establishing a new paragraph (f) to authorize shipments of “UN3190, Self-heating solid, inorganic, n.o.s,” in unlined, non-DOT specification multi-wall paper bags containing a maximum of 55 pounds (net) weight. Because SP 11736 is no longer active, in this

final rule, we are not amending § 173.151 to codify the SP. We further proposed adding new paragraph (g) to authorize “UN2813, Water reactive solid, n.o.s. (contains magnesium, magnesium nitrides)” in PG II or III to be packaged in sift-proof bulk packagings. These revisions codify SPs 11602, 11736, 13796, and 15373. Because we did not receive public comment on the proposals, adverse or otherwise, in this final rule, we are adopting the amendments as proposed.

SP 11602 authorizes the transportation in commerce of certain Division 4.3 materials contained in sift-proof closed bulk packagings that prevent water from reaching the hazmat and have sufficient venting to preclude a dangerous accumulation of gaseous emissions. In the NPRM, we proposed to adopt the provisions of SP 11602 in its entirety in § 173.151(g). Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed. However, in this final rule, we are moving the amendment to new § 172.102(c)(3), Special provision B132 as it is a more appropriate section for these provisions.

SP 13796 authorizes the transportation in commerce of “UN1381, Phosphorus, yellow, under water,” in a 30 gallon UN 1A2 steel drum certified at a minimum to the PG I performance level for solids and the PG II performance level for liquids and, as a minimum, dual marked as UN1A2/X400/S (for solids) and UN1A2 Y/1.4/150 (for liquids). In the NPRM, we proposed to adopt the provisions of SP 13796 in its entirety in § 173.151. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed. However, in this final rule, we are moving the amendment to the most appropriate section for yellow phosphorus, § 173.188; we are also removing the § 173.151 column (8A) exception reference to its HMT entry.

SP 15373 authorizes the manufacture, mark, sale and use of the specially designed combination packagings for “UN1415, Lithium,” “UN2257, Potassium,” and “UN1428, Sodium,” without hazard labels or placards, for quantity limits not exceeding 25 grams. In the NPRM, we proposed to adopt the provisions of SP 15373 in its entirety in new § 173.151(e). Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 173.154

Section 173.154 provides exceptions for Class 8, (corrosive) materials.

In the NPRM, we proposed to codify SP 6614 by establishing a new paragraph (b)(3) to authorize polyethylene bottles with rated capacities of one gallon (3.785 liters), packed inside an open-top, heavy wall, high density polyethylene box for shipping certain Packing Group II and III corrosive liquids by private motor carrier. In this final rule, we are adopting SP 6614 as proposed; however, we are moving the amendment from paragraph (b) to new § 172.102(c)(1), Special provision 386, as it is a more appropriate location in the HMR.

In the NPRM, we also proposed to codify SP 14137 in new paragraph (e) to authorize hydrochloric acid concentration not exceeding 38 %, in Packing Group II, to be packaged in UN31H1 or UN31HH1 intermediate bulk containers when loaded in accordance with the requirements of § 173.35(h). In this final rule, we are adopting SP 14137 as proposed; however, we are moving the amendment from § 173.154(e) to new § 172.102(c)(3), Special provision B133, as it is a more appropriate location in the HMR.

These amendments to § 173.154 codify SP 6614 and 14137. Because we did not receive public comment on the proposals, adverse or otherwise, in this final rule, we are adopting the amendments as proposed. However, the proposed provisions of SP 12030 are now codified in § 173.159(h)(2), as it is a more appropriate location in the HMR for battery fluid packaging provisions.

Section 173.158

Section 173.158 prescribes the general requirements, authorized packagings, and exceptions for nitric acid.

To codify SPs 8230, 9722, and 14213, we proposed in the NPRM to establish a new paragraph (i) to authorize “Nitric acid of up to 40 % concentration” in a UN1H1 non-removable head plastic drum with certain conditions set forth in that paragraph and add new paragraph (j) for the transportation of “Nitric acid, other than red fuming, with more than 70 % nitric acid” and “Nitric acid, other than red fuming, with not more than 70 % nitric acid” in a combination packaging when offered for transportation by rail, highway, or cargo vessel. Because of the supportive public comments received as a result of our proposal, in this final rule, we are adopting the amendments as proposed.

Section 173.159

Section 173.159 prescribes packaging, shipping specifications, and exceptions for the transportation of wet electric storage batteries.

To codify SP 13548, in the NPRM, we proposed to revise paragraph (e) to include shipments of electric storage batteries containing electrolyte or corrosive battery fluid, and electric storage batteries and battery acid. SP 13548 authorizes the transportation in commerce

of lead acid batteries and packages of battery acid with two different UN numbers on the same motor vehicle with the packages secured against shifting. Because of the supportive public comments received as a result of our proposal, in this final rule, we are adopting the amendments as proposed.

In the NPRM, we proposed to revise § 173.154 by codifying SP 12030 in new paragraph (f). After comment review and our own analysis, we believe this amendment is more appropriately codified in new § 173.159(h)(2) along with the existing provision in new § 173.159(h)(1). Special provision N6 of § 172.102 specifies that battery fluid, acid or alkali, when packaged with an electric storage battery, wet or dry, is to be packaged as prescribed in § 173.159(g) or (h). Thus, in this final rule, we are moving the amendment from § 173.154(f) to § 173.159(h)(2) and codifying it as proposed.

Section 173.181

Section 173.181 sets forth packaging and other requirements for pyrophoric materials (liquids).

To codify SP 12920, in the NPRM, we proposed to add new paragraph (d) to § 173.181 that authorizes the transportation of certain pyrophoric materials in a combination package consisting of UN1A2 outer package and a UN1A1 inner package. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed.

Section 173.188

Section 173.188 prescribes the packaging instructions for white and yellow phosphorus.

SP 13796 authorizes the transportation of “UN1381, Phosphorus, yellow, under water,” in a 30 gallon UN 1A2 steel drum certified as a minimum to the PG I performance level for solids and the PG II performance level for liquids and, as a minimum, dual marked as UN1A2/X400/S (for solids) and UN1A2 Y/1.4/150 (for liquids). In the NPRM, we proposed to adopt the provisions of SP 13796 in its entirety in § 173.151. Because we did not receive public comment on the proposal, adverse or otherwise, in this final rule, we are adopting the amendment as proposed. However, in this final rule, we are moving the amendment to the most appropriate section for yellow phosphorus, § 173.188; we are also removing the § 173.151 column (8A) exception reference to its HMT entry.

VI. Regulatory Analyses and Notices

A. Statutory/Legal Authority for this Rulemaking

This rulemaking is issued under the authority of the Federal hazardous materials transportation law (49 U.S.C. 5101 et seq.). Section 5103(b) authorizes the Secretary of Transportation to prescribe regulations for the safe transportation, including security, of hazardous materials in intrastate, interstate, and foreign commerce. This rulemaking codifies certain SPs into the HMR.

B. Executive Order 12866, Executive Order 13563, Executive Order 13610, and DOT Regulatory Policies and Procedures.

This final rule is not considered a significant regulatory action under Executive Order 12866 (“Regulatory Planning and Review”), as supplemented and reaffirmed by Executive Order 13563 (“Improving Regulation and Regulatory Review”), stressing that, to the extent permitted by law, an agency rulemaking action must be based on benefits that justify its costs, impose the

least burden, consider cumulative burdens, maximize benefits, use performance objectives, and assess available alternatives, and the Regulatory Policies and Procedures of the Department of Transportation (44 FR 11034). Executive Orders 12866 and 13563 require agencies to regulate in the “most cost-effective manner,” to make a “reasoned determination that the benefits of the intended regulation justify its costs,” and to develop regulations that “impose the least burden on society.”

Executive Order 13610, issued May 10, 2012, urges agencies to conduct retrospective analyses of existing rules to examine whether they remain justified and whether they should be modified or streamlined in light of changed circumstances, including the rise of new technologies. By building off of each other, these three Executive Orders require agencies to regulate in the “most cost-effective manner,” to make a “reasoned determination that the benefits of the intended regulation justify its costs,” and to develop regulations that “impose the least burden on society.”

In this final rule, PHMSA is amending the HMR to adopt provisions contained in certain widely-used or long-standing SPs that have an established safety record. The revisions are intended to provide wider access to the regulatory flexibility offered in SPs and eliminate the need for numerous renewal requests, thus reducing paperwork burdens and facilitating commerce while maintaining an appropriate level of safety. Although difficult to quantify, PHMSA assumes that for most regulated entities in these categories, the revisions in this final rule require little or no change to existing practice or behavior and incremental compliance costs will thus be close to zero. At the same time, the potential for additional safety benefits is also very limited in these cases, as existing practice and operations are already minimizing the number of incidents.

Estimated benefits associated with this rule result from the regulated community no longer being required to apply for an SP and amount to approximately \$14,000 annually. Costs associated with the rule are estimated to be negligible annually. Since existing SP holders are already complying with the specifications of the current SPs, the amendments adopted in this final rule would not impose new obligations on current non-holders of SPs. The overall costs and benefits of the rule are dependent on the level of pre-existing compliance and the overall effectiveness of the new requirements specified in 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”), 64 FR 43255 (Aug. 10, 1999) and the President’s May 20, 2009 memorandum (74 FR 24693 [May 22, 2009]). The requirements in this final rule would preempt state, local, and Indian tribe requirements but would not have 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 materials transportation law, 49 U.S.C. 5101 et seq., contains an express preemption provision (49 U.S.C. 5125(b)) preempting State, local, and Indian tribe requirements on the following subjects:

- (1) The designation, description, and classification of hazardous materials;
- (2) The packing, repacking, handling, labeling, marking, and placarding of hazardous materials;
- (3) The preparation, execution, and use of shipping documents related to hazardous materials 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; or

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

Federal hazardous materials transportation law provides at 49 U.S.C. 5125(b)(2) that, if DOT issues a regulation concerning any of these 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 2 years after the date of issuance.

This rule would address subject areas (1), (2), (3), and (5) above and would preempt any state, local, or Indian tribe requirements concerning these subjects unless the non-Federal requirements are “substantively the same” as the Federal requirements. The effective date of Federal preemption is [INSERT DATE 90 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER].

D. Executive Order 13175

This final rule has been 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. The primary costs to small entities associated with this rule include developing and updating a risk assessment, developing and updating operating procedures, and additional training for hazmat employees who perform loading and unloading operations.

PHMSA expects the impacts of this rule will be limited for many small entities due to their compliance with other existing Federal regulations. In this rulemaking, PHMSA also explicitly acknowledges that many regulated entities are holders of SPs or are part of industry associations with voluntary codes of safe practice, and that these may be sufficient for compliance with the final rule as long as all of the relevant safety areas are addressed and documented. For regulated entities in these categories, the rulemaking requires little or no change to existing practices or behavior and incremental compliance costs will thus be close to zero. Therefore, the benefit and cost figures discussed below should be viewed as upper bounds, both of which will be reduced by the extent of current practice.

PHMSA estimates that there are 50 potentially affected small entities. The annualized documentation cost for developing and updating the risk assessment and the operating procedures is estimated to be \$375 per small entity. The annualized cost of additional training for affected employees is estimated to be approximately \$5.50 per employee. Further, PHMSA estimates that approximately 50 % of small businesses are already implementing procedures that would be compliant with this rulemaking. Based upon the above estimates and assumptions, PHMSA certifies that this rulemaking does not have a significant economic impact on a substantial number of small entities. Further information on the estimates and assumptions used

to evaluate the potential impacts to small entities is available in the Regulatory Impact Assessment that has been placed in the public docket for this rulemaking.

F. Paperwork Reduction Act

PHMSA currently has an approved information collection under OMB Control No. 2137-0051, entitled “Special Permits and Approvals,” expiring on May 31, 2018. Section 1320.8(d), Title 5, Code of Federal Regulations, requires PHMSA to provide interested members of the public and affected agencies an opportunity to comment on information collection and recordkeeping requests. This rulemaking adds new exceptions to the HMR while eliminating the need for persons to apply for a SP, resulting in a decrease in burden. PHMSA estimates the reduction in information collection burden as follows:

OMB Control No. 2137-0051:	SPs and Approvals
Decrease in Annual Number of Respondents:	96
Decrease in Annual Responses:	96
Decrease in Annual Burden Hours:	194
Decrease in Annual Burden Cost:	\$14,027

There are 832 grantees associated with the 96 SPs being adopted in this rulemaking. Over 10 years, a SP would on average be renewed twice, resulting in 1,664 renewals (832 x 2). The average number of applications per year would be approximately 166 (1,664 / 10). The annual estimated cost savings would total \$14,027 (166 number of renewals per year x \$39.50/hr. preparation cost + 166 renewals per year x \$45.00/hr compliance cost).

Please direct your requests for a copy of this final information collection to Steven Andrews or T. Glenn Foster, Office of Hazardous Materials Standards (PHH-12), Pipeline and

Hazardous Materials Safety Administration, 1200 New Jersey Avenue, S.E., 2nd Floor,
Washington, D.C., 20590-0001.

G. Regulatory Identifier Number (RIN)

A regulatory 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 rulemaking does not impose unfunded mandates under the Unfunded Mandates Reform Act of 1995. PHMSA has concluded that the rule will not impose annual expenditures of \$141.3 million on State, local, or tribal governments or the private sector, and thus does not require an Unfunded Mandates Act analysis.

I. Executive Order 13609 and International Trade Analysis

Under E.O. 13609, agencies must consider whether the impacts associated with significant variations between domestic and international regulatory approaches are unnecessary or may impair the ability of American business to export and compete internationally. In meeting shared challenges involving health, safety, labor, security, environmental, and other issues, international regulatory cooperation can identify approaches that are at least as protective as those that are or would be adopted in the absence of such cooperation. International regulatory cooperation can also reduce, eliminate, or prevent unnecessary differences in regulatory requirements.

Similarly, the Trade Agreements Act of 1979 (Public Law 96-39), as amended by the Uruguay Round Agreements Act (Public Law 103-465), prohibits Federal agencies from

establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. For purposes of these requirements, Federal agencies may participate in the establishment of international standards, so long as the standards have a legitimate domestic objective, such as providing for safety, and do not operate to exclude imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

PHMSA participates in the establishment of international standards in order to protect the safety of the American public, and we have assessed the effects of the rule to ensure that it does not cause unnecessary obstacles to foreign trade. Accordingly, this rulemaking is consistent with E.O. 13609 and PHMSA's obligations under the Trade Agreement Act, as amended.

J. Environmental Assessment and NEPA Analysis

PHMSA is amending the HMR by adopting provisions contained in certain widely-used or long-standing SPs that have an established safety record. The revisions are intended to provide wider access to the regulatory flexibility offered in SPs and eliminate the need for numerous renewal requests, thus reducing paperwork burdens and facilitating commerce while maintaining an appropriate level of safety.

The National Environmental Policy Act (NEPA), 42 USC 4321 – 4375, requires that federal agencies analyze proposed actions to determine whether the action will have a significant impact on the human environment. The Council on Environmental Quality (CEQ) regulations order federal agencies to conduct an environmental review considering (1) the need for the proposed action (2) alternatives to the proposed action (3) probable environmental impacts of the proposed action and alternatives and (4) the agencies and persons consulted during the

consideration process. 40 CFR 1508.9(b). A detailed NEPA assessment has been placed in the docket for this rulemaking for public review.

K. 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 (65 FR 19477) which may be viewed at:

<http://www.gpo.gov/fdsys/pkg/FR-2000-04-11/pdf/00-8505.pdf>.

L. National Technology Transfer and Advancement Act

The National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) directs federal agencies to use voluntary consensus standards in their regulatory activities unless doing so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g. specification of materials, test methods, or performance requirements) that are developed or adopted by voluntary consensus standard bodies. This final rule does not involve voluntary consensus standards.

List of Subjects

49 CFR Part 107

Administrative practice and procedure, Hazardous materials transportation, Penalties, Reporting and recordkeeping requirements.

49 CFR Part 171

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

49 CFR Part 172

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

49 CFR Part 173

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

49 CFR Part 174

Hazardous materials transportation, Incorporation, Radioactive materials, and Railroad safety.

49 CFR Part 176

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

49 CFR Part 177

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

49 CFR Part 178

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

49 CFR Part 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 107—HAZARDOUS MATERIALS PROGRAM PROCEDURES

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

Authority: 49 U.S.C. 5101–5128, 44701; Pub. L. 101–410 section 4 (28 U.S.C. 2461 note); Pub. L. 104–121 sections 212–213; Pub. L. 104–134 section 31001; Pub. L. 112-141 section 33006, 33010; 49 CFR 1.81 and 1.97.

2. In § 107.1, revise the definitions for “insufficient corrective action” and “sufficient corrective action” to read as follows:

§ 107.1 Definitions.

* * * * *

Insufficient corrective action means that either a PHMSA Field Operations (FOPS) Division officer or an authorized representative or special agent of DOT upon request, such as an Operating Administration (OA) representative, has determined that evidence of an applicant’s corrective action in response to prior enforcement cases is inadequate or incomplete and the basic safety management controls proposed for the type of hazardous material, packaging, procedures, and/or mode of transportation remain inadequate to prevent recurrence of a violation.

* * * * *

Sufficient corrective action means that either a PHMSA Field Operations officer or an authorized representative or special agent of DOT upon request, such as an Operating Administration (OA) representative, has determined that evidence of an applicant’s corrective action in response to prior enforcement cases is sufficient and the basic safety management

controls proposed for the type of hazardous material, packaging, procedures, and/or mode of transportation are adequate.

* * * * *

PART 171--GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

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

Authority: 49 U.S.C. 5101-5128, 44701; 101, section 4 (28 U.S.C. 2461 note); Pub. L. 104-121, sections 212-213; Pub. L. 104-134, section 31001; 49 CFR 1.81 and 1.97.

4. In § 171.8, the definition of “Display pack” is added in alphabetical sequence to read as follows:

§ 171.8 Definitions and abbreviations.

* * * * *

Display pack means a package intended to be placed at retail locations which provide direct customer access to consumer commodities contained within the package when all or part of the outer fiberboard packaging is removed.

* * * * *

PART 172--HAZARDOUS MATERIALS TABLE, SPECIAL PROVISIONS, HAZARDOUS MATERIALS COMMUNICATIONS, EMERGENCY RESPONSE INFORMATION, TRAINING REQUIREMENTS, AND SECURITY PLANS

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

Authority: 49 U.S.C. 5101–5128; 44701; 49 CFR 1.81, 1.96 and 1.97.

6. In § 172.101, the Hazardous Materials Table is amended by revising entries under “[REVISE]” to read as follows:

§ 172.101 Purpose and use of hazardous materials table.

* * * * *

§ 172.101 Hazardous Materials Table

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or division (3)	Identification Numbers (4)	PG (5)	Label Codes (6)	Special Provisions (§ 172.102) (7)	(8) Packaging (§ 173.***)			(9) Quantity limitations		(10) Vessel stowage	
							Exceptions (8A)	Non-bulk (8B)	Bulk (8C)	Passenger aircraft/rail (9A)	Cargo aircraft only (9B)	Location (10A)	Other (10B)
	[REVISE]												
	*		*		*		*		*		*		*
	Acrolein, stabilized	6.1	UN1092	I	6.1, 3	1, 380, B9, B14, B30, B42, B77, T22, TP2, TP7, TP13, TP38, TP44	None	226	244	Forbidden	Forbidden	D	40
	*		*		*		*		*		*		*
	Adhesives, containing a flammable liquid	3	UN1133	I	3	T11, TP1, TP8, TP27	150	201	243	1 L	30 L	B	
				II	3	149, 383, B52, IB2, T4, TP1, TP8	150	173	242	5 L	60 L	B	
				III	3	B1, B52, IB3, T2, TP1	150	173	242	60 L	220 L	A	
	*		*		*		*		*		*		*
G	Articles, explosive, n.o.s.	1.4S	UN0349	II	1.4S	101, 148, 382	None	62	None	25 kg	100 kg	01	25
	*		*		*		*		*		*		*
	Articles, pyrotechnic for technical purposes	1.4G	UN0431	II	1.4G	381	None	62	None	Forbidden	75 kg	02	25
	*		*		*		*		*		*		*
	Coating solution (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)	3	UN1139	I	3	T11, TP1, TP8, TP27	150	201	243	1 L	30 L	B	
				II	3	149, IB2, T4, TP1, TP8, 383	150	202	242	5 L	60 L	B	
				III	3	B1, IB3, T2, TP1	150	203	242	60 L	220 L	A	
	*		*		*		*		*		*		*
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

G	Corrosive liquid, acidic, organic, n.o.s.	8	UN3265	II	8	386, 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
				I	8	A6, B10, T14, TP2, TP27	None	201	243	0.5 L	2.5 L	B	40
				II	8	148, B2, IB2, T11, TP2, TP27	154	202	242	1 L	30 L	B	40
				III	8	386, IB3, T7, TP1, TP28	154	203	241	5 L	60 L	A	40
G	Corrosive liquid, basic, inorganic, n.o.s.	8	UN3266	I	8	A6, T14, TP2, TP27	None	201	243	0.5 L	2.5 L	B	40, 52
				II	8	386, B2, IB2, T11, TP2, TP27	154	202	242	1 L	30 L	B	40, 52
				III	8	IB3, T7, TP1, TP28	154	203	241	5 L	60 L	A	40, 52
G	* Corrosive liquids, n.o.s.	8	* NA1760	*	*		*	*	*	*	*	*	*
				I	8	A6, A7, B10, T14, TP2, TP27	None	201	243	0.5 L	2.5 L	B	40
				II	8	386, B2, IB2, T11, TP2, TP27	154	202	242	1 L	30 L	B	40
G	* Environmentally hazardous substance, solid, n.o.s	9	* UN3077	*	*		*	*	*	*	*	*	*
				III	9	8, 146, 335, 384, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33	155	213	240	No limit	No limit	A	*
				II	4.1	381	None	184	None	15 kg	50 kg	B	*
D	* Fusée (railway or highway) * Hydrochloric acid * Hypochlorite solutions * Lithium	4.1	* NA1325 * UN1789 * UN1791 * UN1415	II	4.1		*	*	*	*	*	*	*
				II	8	386, A3, A6, B3, B15, B133, IB2, N41, T8, TP2	154	202	242	1 L	30 L	C	
				III	8	A3, IB3, T4, TP1	154	203	241	5 L	60 L	C	8
				II	8	148, A7, B2, B15, IB2, IP5, N34, T7, TP2, TP24	154	202	242	1 L	30 L	B	26
				III	8	386, IB3, N34, T4, TP2, TP24	154	203	241	5 L	60 L	B	26
				I	4.3	A7, A19, IB4, IP1, N45	151	211	244	Forbidden	15 kg	E	13, 52, 148

D G	*	9	NA3077	III	9	384, B54, IB8, IP2, T1, TP33	155	213	240	No limit	No limit	A	*
	Other regulated substances, solid, n.o.s.		*		*		*		*		*		*
	Paint including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base	3	UN1263	I	3	367, T11, TP1, TP8, TP27	150	201	243	1 L	30 L	E	*
				II	3	149, 367, 383, B52, B131, IB2, T4, TP1, TP8, TP28	150	173	242	5 L	60 L	B	*
				III	3	367, B1, B52, B131, IB3, T2, TP1, TP29	150	173	242	60 L	220 L	A	*
	*		*		*		*		*		*		*
	Paint related material including paint thinning, drying, removing, or reducing compound	3	UN1263	I	3	367, T11, TP1, TP8, TP27	150	201	243	1 L	30 L	E	*
				II	3	149, 367, 383, B52, B131, IB2, T4, TP1, TP8, TP28	150	173	242	5 L	60 L	B	*
				III	3	367, B1, B52, B131, IB3, T2, TP1, TP29	150	173	242	60 L	220 L	A	*
	*		*		*		*		*		*		*
	Petroleum gases, liquefied or Liquefied petroleum gas	2.1	UN1075		2.1	T50, N95	306	304	314, 315	Forbidden	150 kg	E	40
	*		*		*		*		*		*		*
	Potassium	4.3	UN2257	I	4.3	A7, A19, A20, B27, IB4, IP1, N6, N34, T9, TP7, TP33	151	211	244	Forbidden	15 kg	D	52
	*		*		*		*		*		*		*

	Printing ink, flammable or Printing ink related material (including printing ink thinning or reducing compound), flammable	3	UN1210	I	3	367, T11, TP1, TP8	150	201	243	1 L	30 L	E	
				II	3	149, 367, 383, IB2, T4, TP1, TP8	150	173	242	5 L	60 L	B	
				III	3	367, B1, IB3, T2, TP1	150	173	242	60 L	220 L	A	
	*		*		*		*		*		*		*
	Propane, see also Petroleum gases, liquefied	2.1	UN1978		2.1	19, T50, N95	306	304	314, 315	Forbidden	150 kg	E	40
	*		*		*		*		*		*		*
	Resin Solution, flammable	3	UN1866	I	3	B52, T11, TP1, TP8, TP28	150	201	243	1 L	30 L	E	
				II	3	149, 383, B52, IB2, T4, TP1, TP8	150	173	242	5 L	60 L	B	
				III	3	B1, B52, IB3, T2, TP1	150	173	242	60 L	220 L	A	
	*		*		*		*		*		*		*
G	Self-heating solid, organic, n.o.s.	4.2	UN3088	II	4.2	IB6, IP2, T3, TP33	None	212	241	15 kg	50 kg	C	
				III	4.2	B116, B130, IB8, IP3, TP33	None	213	241	25 kg	100 kg	C	
	*		*		*		*		*		*		*
	Signal devices, hand	1.4G	UN0191	II	1.4G	381	None	62	None	Forbidden	75 kg	02	25
	Signal devices, hand	1.4S	UN0373	II	1.4S	381	None	62	None	25 kg	100 kg	01	25
	*		*		*		*		*		*		*
	Signals, railway track, explosive	1.4S	UN0193	II	1.4S	381	None	62	None	25 kg	100 kg	01	25
	*		*		*		*		*		*		*
	Sodium	4.3	UN1428	I	4.3	A7, A8, A19, A20, B9, B48, B68, IB4, IP1, N34, T9, TP7, TP33, TP46	151	211	244	Forbidden	15 kg	D	52
	*		*		*		*		*		*		*

	Sulfuric acid <u>with not more than 51 % acid</u>	8	UN2796	II	8	386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2	154	202	242	1 L	30 L	B	
	*		*		*		*		*		*		*
D	Toy caps	1.4S	NA0337	II	1.4S	382	None	62	None	25 kg	100 kg	01	25
	*		*		*		*		*		*		*
	Trinitroresorcinol, wetted or Styphnic acid, wetted with not less than 20 percent water, or mixture of alcohol and water by mass	1.1D	UN0394	II	1.1D	385	None	62	None	Forbidden	Forbidden	04	25, 5E
	*		*		*		*		*		*		*
G	Water-reactive solid, n.o.s.	4.3	UN2813	I	4.3	IB4, N40, T9, TP7, TP33	None	211	242	Forbidden	15 kg	E	40
				II	4.3	B132, IB7, IP2, T3, TP33	151	212	242	15 kg	50 kg	E	40
				III	4.3	B132, IB8, IP4, T1, TP33	151	213	241	25 kg	100 kg	E	40

* * * * *

7. In § 172.102:

- a. In paragraph (c)(1), special provisions 380, 381, 382, 383, 384, 385, and 386 are added in numerical sequence.
- b. In paragraph (c)(3), special provisions B130, B131, B132, and B133 are added in numerical sequence.
- c. In paragraph (c)(5), special provision N95 is added in numerical sequence.

The additions are to read as follows:

§ 172.102 Special provisions.

* * * * *

(c) * * *

(1) * * *

380 For transportation by private carrier in a motor carrier only, this material is not subject to the segregation requirements of § 177.848(d) of this subchapter under the following conditions:

- a. The material is packaged in a DOT Specification 4BW240 cylinder, or in a DOT-51 portable tank.
- b. The material may only be loaded with Class 3, Class 8, and Division 4.1 materials in Packing Group II or III.
- c. The motor carrier must maintain a satisfactory safety rating as prescribed in 49 CFR Part 385.

381 For railroad flagging kits, see § 173.184 (c) of this subchapter.

382 Packages containing toy plastic or paper caps for toy pistols described as “UN0349, Articles, explosive, n.o.s. (Toy caps), 1.4S” or “NA0337, Toy caps, 1.4S” are not subject to the subpart E (labeling) requirements of this part when offered for transportation by motor vehicle, rail freight, cargo vessel, and cargo aircraft and, notwithstanding the packing method assigned in § 173.62 of this subchapter, in conformance with the following conditions:

- a. The toy plastic or paper caps must be in the form of sheets, strips, rolls, or individual caps;
- b. The caps must not contain more than an average of twenty-five hundredths of a grain of explosive composition per cap;
- c. The caps must be packed inside packagings constructed of cardboard not less than 0.013-inch in thickness, metal not less than 0.008-inch in thickness, non-combustible plastic not less than 0.015-inch in thickness, or a composite blister package consisting of

cardboard not less than 0.013-inch in thickness and non-combustible plastic not less than 0.005-inch in thickness that completely encloses the caps;

d. The minimum dimensions of each side and each end of the cardboard packaging must be 1/8th inch in height or more;

e. The number of caps inside each packaging must be limited so that not more than 10 grains of explosives composition may be packed into one cubic inch of space, and not more than 17.5 grains of the explosive composition of toy caps may be packed in any inner packaging;

f. Inner packagings must be packed in outer packagings meeting PG II performance criteria;

g. Toy caps may be packed with non-explosive or non-flammable articles provided the outer packagings are marked as prescribed in this paragraph;

h. Toy paper caps of any kind must not be packed in the same packaging with fireworks;

i. The outside of each package must be plainly marked "ARTICLES, EXPLOSIVES, N.O.S. (TOY CAPS) – HANDLE CAREFULLY" OR "TOY CAPS – HANDLE CAREFULLY"; and

j. Explosives shipped in conformance with this paragraph must have been examined in accordance with § 173.56 of this subchapter and approved by the Associate Administrator.

383 For transportation by motor vehicle, substances meeting the conditions for high viscosity flammable liquids as prescribed in § 173.121(b)(1)(i), (b)(1)(ii), and (b)(1)(iv) of this subchapter, may be reassigned to Packing Group III under the following conditions:

- a. Packaging must be UN standard metal drums attached with heavy duty steel strapping to a pallet; and
- b. The capacity of each drum must not exceed 220 L (58 gallons).

384 For green graphite electrodes and shapes that are large single component solid objects not subject to shifting, transport in open rail flat cars, open bed motor vehicles, and intermodal containers is also authorized. The objects must be secured to the flat car, motor vehicle, intermodal container, or unitized by steel banding to wooden runners or pallets and the units secured to the flat car, motor vehicle, or freight container to prevent shifting and movement, including relative motion between the objects, under conditions normally incident to transportation. Stacking is permitted two or more levels high to achieve maximum allowable utilization of the designated vehicle, rail car weight, or intermodal freight container weight or vessel hold volume.

385 Notwithstanding the provisions of § 177.834(1) of this subchapter, cargo heaters may be used when weather conditions are such that the freezing of a wetted explosive material is likely. Shipments must be made by private, leased or contract carrier vehicles under exclusive use of the offeror. Cargo heaters must be reverse refrigeration (heat pump) units. Shipments made in accordance with this Special provision are excepted from the requirements of § 173.60(b)(4) of this subchapter.

386 When transported by private motor carrier only, the following corrosive liquids may be packaged in polyethylene bottles with a capacity no greater than 3.785L (one gallon), further packed inside an open-top, heavy wall, high density polyethylene box (i.e., crate) in a manner that the polyethylene bottles are not subjected to any superimposed weight,

and the boxes must be reasonably secured against movement within the transport vehicle and loaded so as to minimize the possibility of coming in contact with other lading:

Compounds, cleaning liquid, NA1760, PG II or III;

Corrosive liquid, acidic, inorganic, n.o.s., UN3264, PG II;

Corrosive liquid, acidic, organic, n.o.s., UN 3265, PG III;

Corrosive liquid, basic, inorganic, n.o.s., UN3266, PG II;

Hypochlorite solutions, UN1791, PG III;

Hydrochloric acid solution, UN 1789, PG II; and

Sulfuric acid, UN2796, PG II.

a. No more than four bottles, securely closed with threaded caps, may be packed in each box.

b. Each empty bottle must have a minimum weight of not less than 140 grams and a minimum wall thickness of not less than 0.020 inch (0.508 mm).

c. The completed package must meet the Packing Group II performance level, as applicable for combination packagings with a plastic box outer packaging, in accordance with subpart M of part 178 of this subchapter.

(i) Tests must be performed on each type and size of bottle, for each manufacturing location. Samples taken at random must withstand the prescribed tests without breakage or leakage.

(ii) One bottle for every two hours of production, or for every 2500 bottles produced, must be tested by dropping a bottle filled to 98 % capacity with water from a height of 1.2 meters (3.9 feet) onto solid concrete directly on the closure.

(iii) A copy of the test results must be kept on file at each facility where packagings are offered for transportation, and must be made available to a representative of the Department upon request.

(iv) The name or symbol of the bottle producer, and the month and year of manufacture, must be marked by embossing, ink-jet printing of permanent ink, or other permanent means on the face or bottom of each bottle, in letters and numbers at least 6 mm (0.2 inch) high. Symbols, if used, must be registered with the Associate Administrator.

(v) The box must be constructed from high-density polyethylene in the density range 0.950- 0.962, and be capable of holding liquid when in the upright position.

* * * *

(3) * * *

B130 When transported by motor vehicle, used diatomaceous earth filter material is not subject to any other requirements of this subchapter except for the shipping paper requirements of subpart C of part 172 of this subchapter; emergency response information as required by § 172.602(a)(2) through (a)(7) of this subchapter; and the marking requirements of § 172.302 of this subchapter, if the following requirements are met:

a. Packagings are non-DOT specification sift-proof motor vehicles or sift-proof roll-on/roll-off bulk bins, which are covered by a tarpaulin or other equivalent means.

b. The temperature of the material at the time it is offered for transport and during transportation may not exceed 55 °C (130 °F).

c. The time between offering the material for transportation at the point of origin, and unloading the material at the destination does not exceed 48 hours.

d. In addition to the training requirements prescribed in §§ 172.700 through 172.704, each driver must be trained regarding the properties and hazards of diatomaceous earth filter material, precautions to ensure safe transport of the material, and actions to be taken in the event of an emergency during transportation, or a substantial delay in transit.

B131 When transported by highway, rail, or cargo vessel, waste Paint and Paint related material (UN1263; PG II and PG III), when in plastic or metal inner packagings of not more than 26.5 L (7 gallons), are excepted from the marking requirements in § 172.301(a) and (c) and the labeling requirements in § 172.400(a), when further packed in the following specification and non-specification bulk outer packagings and under the following conditions:

a. Primary receptacles must conform to the general packaging requirements of subpart B of part 173 of this subchapter and may not leak. If they do leak, they must be overpacked in packagings conforming to the specification requirements of part 178 of this subchapter or in salvage packagings conforming to the requirements in § 173.12 of this subchapter.

b. Primary receptacles must be further packed in non-specification bulk outer packagings such as cubic yard boxes, plastic rigid-wall bulk containers, dump trailers, and roll-off containers. Bulk outer packagings must be liquid tight through design or by the use of lining materials.

c. Primary receptacles may also be further packed in specification bulk outer packagings. Authorized specification bulk outer packagings are UN11G fiberboard intermediate bulk containers (IBC) and UN13H4 woven plastic, coated and with liner flexible intermediate bulk containers (FIBCs) meeting the Packing Group II performance level and lined with a plastic liner of at least 6 mil thickness.

d. All inner packagings placed inside bulk outer packagings must be blocked and braced to prevent movement during transportation that could cause the container to open or fall over. Specification IBCs and FIBCs are to be secured to a pallet.

B132 Except for transportation by aircraft, UN2813, Water reactive solid, n.o.s. (contains magnesium, magnesium nitrides) in PG II or III may be packaged in sift-proof bulk packagings that prevent liquid from reaching the hazardous material with sufficient venting to preclude dangerous accumulation of flammable, corrosive or toxic gaseous emissions such as methane, hydrogen and ammonia.

B133 Hydrochloric acid concentration not exceeding 38 %, in Packing Group II, is authorized to be packaged in UN31H1 or UN31HH1 intermediate bulk containers when loaded in accordance with the requirements of § 173.35(h) of this subchapter.

(5) * * *

* * * *

N95 UN1075, Liquefied petroleum gas and UN1978, Propane authorized for transport in DOT 4BA240 cylinders is not subject to the UN identification number and proper shipping name marking or the label requirements of this part subject to the following conditions:

a. The cylinder must be transported in a closed motor vehicle displaying FLAMMABLE GAS placards in accordance with subpart F of part 172 of this subchapter..

b. Shipping papers at all times must reflect a correct current accounting of all cylinders both full and expended.

c. The cylinders are collected and transported by a private or a contract carrier for reconditioning, reuse or disposal.

* * * * *

8. In 172.202, paragraph (c) is revised to read as follows:

§ 172.202 Description of hazardous material on shipping papers.

* * * * *

(c)(1) The total quantity of the material covered by one description must appear before or after, or both before and after, the description required and authorized by this subpart. The type of packaging and destination marks may be entered in any appropriate manner before or after the basic description. Abbreviations may be used to express units of measurement and types of packagings.

(2) Hazardous materials and hazardous substances transported by highway considered "household wastes" as defined in 40 CFR 261.4, and not subject to the Environmental Protection Agency's hazardous waste regulations in 40 CFR parts 262 and 263, are excepted from the requirements of this paragraph.

* * * * *

9. In 172.315 paragraph (a)(3) is added to read as follows:

§ 172.315 Limited quantities.

(a) * * *

(3) Except for Class 1 and 7, and Division 6.1 and 6.2 materials, for highway transportation by private motor carrier, the limited quantity marking is not required to be displayed on a package containing materials assigned to Packing Group II and III prepared in accordance with the limited quantity requirements in subpart B of part 173 of this subchapter provided:

(i) Inner packagings for liquid hazardous materials do not exceed 1.0 L (0.3 gallons) net

capacity each;

(ii) Inner packagings for solid hazardous materials do not exceed 1.0 kg (2.2 pounds) net capacity each;

(iii) No more than 2 L (0.6 gallons) or 2 kg (4.4 pounds) aggregate net quantity of any one hazardous material is transported per vehicle;

(iv) The total gross weight of all the limited quantity packages per vehicle does not exceed 60 kg (132 pounds); and

(v) Each package is marked with the name and address of the offeror, a 24-hour emergency response telephone number and the statement "Contains Chemicals" in letters at least 25 mm (one-inch) high on a contrasting background.

* * * * *

10. In § 172.400a, paragraph (a)(1) is revised and paragraph (a)(8) is added to read as follows:

§ 172.400a Exceptions from labeling.

(a) * * *

(1) A Dewar flask meeting the requirements in § 173.320 of this subchapter or a cylinder containing a Division 2.1, 2.2, or 2.3 material that is durably and legibly marked in accordance with CGA C-7, Appendix A (IBR; see § 171.7 of this subchapter). Notwithstanding this exception, overpacks must be labeled (see § 173.25 of this subchapter).

* * * * *

(8) Packages containing toy plastic or paper caps for toy pistols described as "UN0349, Articles, explosive, n.o.s. (Toy caps), 1.4S" or "NA0337, Toy caps, 1.4S" when offered in conformance with the conditions of § 172.102(c)(1), Special provision 382.

* * * * *

**PART 173--SHIPPERS--GENERAL REQUIREMENTS FOR SHIPMENTS AND
PACKAGINGS**

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

Authority: 49 U.S.C. 5101–5128, 44701; 49 CFR 1.81, 1.96 and 1.97.

12. In § 173.12, add paragraph (h) to read as follows:

§ 173.12 Exceptions for shipment of waste materials.

* * * * *

(h) Shrink-wrapped or stretch-wrapped pallets of limited quantity waste. Shrink-wrapped or stretch-wrapped pallets containing packages of waste ORM-D or limited quantity materials may be transported by motor vehicle and cargo vessel under the following conditions:

(1) The waste materials must be in their original undamaged packaging and marked with the "Consumer Commodity ORM-D" marking in conformance with § 172.316 or an authorized limited quantity marking in conformance with § 172.315 of this subchapter, as appropriate. The word "waste" in association with the proper shipping name is not required on individual packages;

(2) Packages must be securely affixed to a pallet and shrink-wrapped or stretch-wrapped;

(3) The outside of the shrink-wrap or stretch-wrap must be marked on opposite sides with either "Waste, Consumer Commodity, ORM-D" or "Waste, Limited Quantity."

13. In § 173.29, paragraph (f) is added to read as follows:

§ 173.29 Empty packagings.

* * * * *

(f) Smokeless powder residue when transported by motor vehicle or container/trailer in container-on-flatcar (COFC) or trailer-on-flatcar (TOFC) service is excepted from subpart C (shipping papers) and the subpart F (placarding) requirements of part 172 of this subchapter when transported in conformance with the following:

(1) The outer packaging must be:

(i) A UN specification 1G fiber drum or 1A2 steel drum; or

(ii) A UN specification 4G fiberboard box or non-specification fiberboard box containing plastic receptacle inner packagings with not more than 2.5 grams of smokeless powders in each inner packaging;

(2) The amount of smokeless powder per outer packaging does not exceed 5 grams;

(3) The smokeless powder is approved in accordance with § 173.56 as a Class 1 explosive material;

(4) The empty packages must be transported in a closed transport vehicle;

(5) The empty packages must be loaded by the shipper and unloaded by the shipper or consignee; and

(6) The hazardous materials description to be used for the material is “RESIDUE: Last Contained Powder, smokeless, Hazard Class N/A, Identification Number N/A, Packing Group N/A”.

* * * * *

14. In § 173.40, revise paragraph (d)(1)(ii) to read as follows:

§ 173.40 General packaging requirements for toxic materials packaged in cylinders.

* * * * *

(d) * * *

(1) * * *

(ii) Each cylinder with a valve must be equipped with a protective metal or plastic cap, other valve protection device, or an overpack which is sufficient to protect the valve from breakage or leakage resulting from a drop of 2.0 m (7 ft) onto a non-yielding surface, such as concrete or steel. Impact must be at an orientation most likely to cause damage.

* * * * *

15. In § 173.62, Packing Instruction 139 in the paragraph (c)(5) Table of Packing Methods is revised to read as follows:

§ 173.62 Specific packaging requirements for explosives.

* * *

(c) * * *

(5) * * *

TABLE OF PACKING METHODS

Packing Instruction	Inner packagings	Intermediate packagings	Outer packagings
* *	* *	* *	*
139	Bags	Not necessary	Boxes
PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS: 1. For UN0065, 0102, 0104, 0289 and 0290, the ends of the detonating cord must be sealed, for example, by a plug firmly fixed so that the explosive cannot escape. The ends of CORD DETONATING flexible			

<p>must be fastened securely.</p> <p>2. For UN0065, 0104, 0289, 0290 the ends of the detonating cord are not required to be sealed provided the inner packaging containing the detonating cord consists of a static-resistant plastic bag of at least 3 mil thickness and the bag is securely closed.</p> <p>3. For UN0065 and UN0289, inner packagings are not required when they are fastened securely in coils</p>			
* *	* *	* *	*

* * * * *

16. In § 173.150, add paragraph (h) to read as follows:

§ 173.150 Exceptions for Class 3 (flammable and combustible liquids).

* * * * *

(h) Diesel fuel (NA1993) and Gasoline (UN1203) may be transported one way, by motor vehicle, directly from the loading location to an equipment repair facility, in a non-DOT specification, non-bulk packaging, known as a gasoline dispenser, that has been removed from service at a fueling station under the following conditions:

(1) Prior to loading, each dispenser must be prepared for transportation by capping or plugging all product inlet and outlet piping, so that no fluid may be released during transportation;

(2) No dispenser may contain more than 2 gallons of gasoline; and

(3) Each dispenser must be blocked, braced or strapped to the motor vehicle in accordance with the requirements of this subchapter to prevent shifting during transportation.

17. In § 173.151, paragraph (e) is added to read as follows:

§ 173.151 Exceptions for Class 4.

* * * * *

(e) For transportation by motor vehicle only, Lithium (UN1415), Potassium (UN2257), and Sodium (UN1428) with a net quantity of material per inner packaging not exceeding 25 grams, are excepted from the labeling requirements of part 172, subpart E and the placarding requirements of part 172, subpart F of this subchapter, when offered for transportation in the following packagings under the following conditions:

(1) Packaging. (i) The hazardous material is placed in a tightly closed plastic bottle after being submerged in mineral oil;

(ii) The plastic bottle is placed inside a plastic bag that is securely closed to prevent leaks or punctures;

(iii) The bagged bottle is then be placed inside a metal can with all void spaces filled with an oil-absorbing material and sealed tight; and

(iv) The can is then placed into a heat sealed barrier bag.

(2) Marking. Each inner plastic bottle, outer metal can, and barrier bag must be marked with: chemical name; quantity; and the name and address of the offeror. Each outer packaging must be marked with the proper shipping name and identification number in conformance with § 172.301. Additionally, each outer packaging must be marked, “FOR TRANSPORT BY MOTOR VEHICLE ONLY.”

(3) Recordkeeping. (i) Records of the preparation, packaging, and marking of each chemical must be documented and all components in each package must be noted; and

(ii) Records must be retained for a minimum of 5 years and be accessible at or through the shipper's principal place of business and be made available, upon request, to the Associate Administrator or designated official.

18. In § 173.156, paragraphs (c) and (d) are added to read as follows:

§ 173.156 Exceptions for limited quantity and ORM.

* * * * *

(c) Display packs. Display packs, as defined in § 171.8 of this subchapter, of consumer commodity or limited quantity packages that exceed 30 kg gross weight limitation may be transported by container/trailer in trailer-on-flatcar (TOFC) or container-on-flat-car (COFC) service, roadrailer and/or railrunner trailers, motor vehicle, or cargo vessel under the following conditions:

(1) Packaging. Combination packages must conform to the requirements of Subpart B of this part and meet the following, as appropriate:

(i) Primary containers must conform to the quantity limits for inner packagings prescribed in §§ 173.150(b), 173.152(b), 173.154(b), 173.155(b) and 173.306(a) and (b), as appropriate;

(ii) Primary containers must be packed into trays that secure individual containers from shifting inside the completed combination package during transportation;

(iii) Tray(s) must be placed into a fiberboard box, and the fiberboard box must be banded and secured to a pallet by metal, fabric, or plastic straps to form a single palletized unit; and

(iv) The maximum net quantity of hazardous material permitted in one palletized unit is 550 kg (1,210 lbs.).

(2) Marking. The outside of each package must be plainly and durably marked in accordance with one of the following, as appropriate:

(i) As a consumer commodity as prescribed in § 172.316 of this subchapter; or

(ii) As a limited quantity as prescribed in § 172.315 of this subchapter.

(d) Exceptions for waste limited quantities and ORM-D materials. Exceptions for certain waste limited quantity and ORM-D materials are prescribed in § 173.12(h).

19. In § 173.158, paragraphs (i) and (j) are added to read as follows:

§ 173.158 Nitric acid.

* * * * *

(i) Nitric acid solutions of concentrations up to 40 %, nitric acid by weight when offered for transportation or transported by rail, highway, or cargo vessel, may be packaged in a UN1H1 non-removable head plastic drum, tested and marked at the PG II performance level for liquids with a specific gravity of at least 1.8, and a hydrostatic test pressure appropriate for the hazardous material.

(1) Each drum may only be used one time and must be destroyed after emptying.

(2) Each drum must be permanently and legibly marked “Single Trip Only” and “Must be Destroyed When Empty.”

(j) Nitric acid solutions, other than red fuming, with more than 70 % nitric acid and Nitric acid solutions, other than red fuming, with not more than 70 % nitric acid, when offered for transportation or transported by rail, highway, cargo vessel, or cargo-only aircraft may be

packaged in a UN 4G outer fiberboard box meeting the Packing Group I or II performance level, as appropriate, subject to the following conditions:

(1) Inner packaging: A plastic (“fluorinated ethylene-propylene” [FEP] polymers, “perfluoroalkoxy” [PFA] polymers or similar materials) bottle with lined screw closure meeting the compatibility requirements of § 173.24(e) of this section and having a net capacity not greater than 2.5 liters (0.66 gallon) each. For cargo-only aircraft, the inner packaging for PG I material may not exceed 1 L (0.3 gal) capacity. The wall thickness of the bottle must not be less than 0.020”.

(2) Intermediate packaging: (i) A tightly closed rigid-foam plastic receptacle each containing one inner packaging; or

(ii) A plastic bag containing one inner packaging and placed inside a heavy-wall polypropylene bag lined with polypropylene absorbent material of sufficient capacity to completely absorb the liquid contents of each inner package. Both bags must be tightly sealed with either plastic tape, a wire tie or a cable tie.

20. In § 173.159:

- a. The paragraph (e) introductory text is revised.
- b. Paragraph (h) is revised.
- c. Paragraph (j) is added.

The revisions and additions read as follows:

§ 173.159 Batteries, wet.

* * * * *

(e) When transported by highway or rail, electric storage batteries containing electrolyte, acid, or alkaline corrosive battery fluid and electric storage batteries packed with electrolyte,

acid, or alkaline corrosive battery fluid, are not subject to any other requirements of this subchapter, if all of the following are met:

* * * * *

(h)(1) Dry batteries or battery charger devices may be packaged in 4G fiberboard boxes with inner receptacles containing battery fluid. Completed packages must conform to the Packing Group III performance level. Not more than 12 inner receptacles may be packed in one outer box. The maximum authorized gross weight for the completed package is 34 kg (75 pounds).

(2) Battery fluid, acid (UN2796) may be packaged in a UN6HG2 composite packaging further packed in a UN4G fiberboard box with a dry storage battery. The UN6HG2 composite packaging may not exceed 8.0 liters in capacity. Completed packages must conform to the Packing Group III performance level. The maximum authorized gross weight for the completed package is 37.0 kg (82.0 lbs).

* * * * *

(j) Nickel cadmium batteries containing liquid potassium hydroxide solution. Nickel-cadmium batteries that contain no more than 10 ml of liquid potassium hydroxide solution (UN1814) in each battery are not subject to the requirements of this subchapter under the following conditions:

(1) Each battery must be sealed in a heat sealed bag, packaged to prevent short circuits, and placed in the center of an outer packaging surrounded with a foam-in-place packaging material;

(2) The completed package must meet the Packing Group II performance level;

(3) The gross weight of the package may not exceed 15.2 kg (33.4 pounds); and

(4) The cumulative amount of potassium hydroxide solution in all of the batteries in each package may not exceed 4 ounces (0.11 kg).

21. In § 173.168, add paragraph (g) to read as follows:

§ 173.168 Chemical oxygen generators.

* * * * *

(g) Exceptions. An unapproved chemical oxygen generator with only one positive means of preventing unintentional actuation of the generator, and without the required approval number marked on the outside of the package, may be transported by motor vehicle, railcar, and cargo vessel only under the following conditions:

(1) Packaging. (i) The one positive means of preventing unintentional actuation of the generator shall be installed in such a manner that the percussion primer is so completely protected from its firing pin that it cannot be physically actuated or the electric firing circuit is so completely isolated from the electric match that it cannot be electrically actuated.

(ii) Inner packaging. Except as provided in paragraph (g)(1)(iii) of this section below, an unapproved chemical oxygen generator, or unapproved chemical oxygen generator installed in smaller size equipment such as a PBE shall be packaged in a combination packaging consisting of a non-combustible inner packaging that fully encloses the chemical oxygen generator or piece of equipment inside an outer packaging which meets the requirements in paragraph (d)(1) of this section.

(iii) Impractical size packaging. If the piece of equipment in which the unapproved chemical oxygen generator is installed is so large (e.g., an aircraft seat) as to not be practically able to be fully enclosed in the packaging prescribed in paragraph (g)(1)(ii) of this section, then a

visible and durable warning tag must be securely attached to the piece of equipment stating
“**THIS ITEM CONTAINS A CHEMICAL OXYGEN GENERATOR.**”

(2) Testing. Each unapproved chemical oxygen generator, without its packaging, must be capable of withstanding a 1.8 meter drop onto a rigid, non-resilient, flat and horizontal surface, in the position most likely to cause damage, with no actuation or loss of contents.

(3) Marking. (i) If the unapproved chemical oxygen generator is inside a piece of equipment which is sealed or difficult to determine if an oxygen generator is present, for example - a closed sealed passenger service unit, then a visible and durable warning sign must be attached to the piece of equipment stating: “**THIS ITEM CONTAINS A CHEMICAL OXYGEN GENERATOR**”; and

(ii) Each outer package, and overpack if used, must be visibly and durably marked with the following statement: “**THIS PACKAGE IS NOT AUTHORIZED FOR TRANSPORTATION ABOARD AIRCRAFT**”.

22. In § 173.181, revise paragraph (a) and add paragraph (d) to read as follows:

§ 173.181 Pyrophoric materials (liquids).

* * * * *

(a) Authorized cylinders. (1) A specification steel or nickel cylinder prescribed for any compressed gas, except acetylene, having a minimum design pressure of 1206 kPa (175 psig).

(2) DOT 3AL cylinders constructed of aluminum alloy 6061-T6 with a minimum marked service pressure of 1,800 psig and a maximum water capacity of 49 liters (13 gal) may be used for the transportation of inorganic pyrophoric liquids (UN3194). Any preheating or heating of the DOT 3AL cylinder must be limited to a maximum temperature of 79.4 °C (175 °F).

(3) Cylinders authorized under paragraphs (a)(1) and (a)(2) of this section equipped with valves must be:

(i) Equipped with steel valve protection caps or collars; or

(ii) Overpacked in a wooden box (4C1, 4C2, 4D or 4F); fiberboard box (4G), or plastic box (4H1 or 4H2). Cylinders must be secured to prevent shifting in the box and, when offered for transportation or transported, must be so loaded that pressure relief devices remain in the vapor space of the cylinder. (See §177.838(h) of this subchapter.)

* * * * *

(d) Combination packagings consisting of the following:

(1) Inner packaging. A 10 liter or 20 liter UN1A1 drum which has been certified to PG I of subpart M of part 178 of this subchapter. Each inner drum must—

(i) Have minimum wall thickness of 1.9 mm;

(ii) Have 4 NPT or VCR openings, each with a diameter of 6.3 mm;

(iii) Be fabricated from stainless steel; and

(iv) On the upper head, be fitted with a center opening with a maximum diameter of 68.3 mm and the opening sealed with a threaded closure fabricated from 316 stainless steel. No more than two (2) inner drums may be placed inside the outer drum.

(2) Outer packaging. A UN1A2 drum that has been certified to the PG I performance level of subpart M of part 178 of this subchapter and a capacity not to exceed 208 L (55 gal). The drum must have a minimum wall thickness of 1.0 mm and the top head must be closed with a steel closing ring with a minimum thickness of 2.4 mm. No more than two (2) inner drums described in paragraph (d)(1) of this section may be placed inside the outer drum.

23. In § 173.184, add paragraph (c) to read as follows:

§ 173.184 Highway or rail fusees.

* * * * *

(c) For transportation by highway, railroad flagging kits are not subject any other requirements of this subchapter when all of the following conditions are met:

(1) The flagging kits may only contain fusees and railroad torpedoes as follows:

(i) Fusee (rail or highway) (NA1325, Division 4.1, PG II).

(ii) Articles, pyrotechnic (UN0431, Division 1.4G, PG II).

(iii) Signal devices, hand (UN0373, Division 1.4S, PG II).

(iv) Signal devices, hand (UN0191, Division 1.4G, PG II).

(v) Signals, railway track, explosive (UN0193, Division 1.4S, PG II).

(2) Fusees and railroad torpedoes must be transported in compartmented metal containers. Each compartment must have a cover with a latching device. Compartments for railroad torpedoes must be equipped with a spring-loaded positive locking device. Each compartment may only contain one type of device.

(3) Each flagging kit may contain a maximum of 36 fusees and 36 railroad torpedoes. No more than six (6) flagging kits may be transported at one time on any motor vehicle.

(4) Flagging kits may only be transported on railroad motor vehicles including privately owned motor vehicles under the direct control of on-duty railroad employees.

(5) The fusees and railroad torpedoes must be kept in the closed flagging kits whenever they are not being used on the railroad right-of-way, while the motor vehicle is being driven, or whenever the motor vehicle is located on other than railroad property.

(6) When left in unattended motor vehicles on non-railroad property, a flagging kit must be locked inside the motor vehicle, or stored in a locked compartment on the motor vehicle.

24. In § 173.188, add paragraph (a)(3) to read as follows:

§ 173.188 White or yellow phosphorus.

* * * * *

(a) * * *

(3)(i) A 115 L (30 gallon) UN1A2 steel drum certified to the PG I performance level for solids and the PG I or PG II performance level for liquids and dual marked, at a minimum, as a UN1A2/X400/S (for solid) and UN1A2 X(or Y)/1.4/150 (for liquids) subject to the following conditions:

(ii) Enough water must be present in each drum to ensure that the phosphorous is covered by water at all times during transportation, in any orientation of the drum;

(iii) Drums must be held and observed for a minimum of 24-hours before transportation. Any leaking or otherwise unsuitable drums must be replaced prior to transportation;

(iv) Packages must be destroyed and may not be reused;

(v) The net mass of the material and water, in kilograms, must not exceed the mass that would be permitted by calculating the volume of the packaging in liters multiplied by the specific gravity indicated on the package certification;

(vi) Transportation is by private or contract motor carrier only; and

(vii) Transportation is authorized from the offeror's location to a facility where it must be unloaded by the consignee.

* * * * *

25. In § 173.193, revise paragraph (b) to read as follows:

§ 173.193 Bromoacetone, methyl bromide, chloropicrin and methyl bromide or methyl chloride mixtures, etc.

* * * * *

(b) Bromoacetone, methyl bromide, chloropicrin and methyl bromide mixtures, chloropicrin and methyl chloride mixtures, and chloropicrin mixtures charged with non-flammable, non-liquefied compressed gas must be packed in Specification 3A, 3AA, 3B, 3C, 3E, 4A, 4B, 4BA, 4BW, or 4C cylinders having not over 113 kg (250 pounds) water capacity (nominal) except:

(1) DOT Specification 4BW cylinders containing chloropicrin and methyl bromide mixtures may not exceed 453 kg (1000 pounds); and

(2) The capacity limit of this paragraph does not apply to shipments of methyl bromide.

* * * * *

26. In § 173.226, add paragraph (f) to read as follows:

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

* * * * *

(f) Liquid hazardous materials in Division 6.1, PG I, Hazard Zone A, are excepted from the segregation requirements of §§ 174.81, 176.83, and 177.848(d) of this subchapter when packaged as follows:

(1) Inner packaging system. The inner packaging system must consist of three packagings:

(i): A glass, plastic or metal receptacle, with a capacity of not more than 1 liter (1 quart), securely cushioned with a non-reactive, absorbent material. The receptacle must have a closure

that is held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during transportation.

(ii) The receptacle must be packed within a leak-tight packaging of metal, with a capacity of not less than 4 liters (1 gallon); and

(iii) The metal packaging must be securely cushioned with a nonreactive absorbent material and packed in a leak-tight UN 1A2 steel drum or UN 1H2 plastic drum, with a capacity of not less than 19 liters (5 gallons).

(2) Outer packaging. The inner packaging system must be placed in a UN 1A2 steel drum or UN 1H2 plastic drum, with a capacity of not less than 114 liters (30 gallons). The inner packaging system must be securely cushioned with a non-reactive, absorbent material. The total amount of liquid contained in the outer packaging may not exceed 1 liter (1 quart).

(3) Both the inner packaging system and the outer packaging must conform to the performance test requirements of subpart M of part 178 of this subchapter at the PG I performance level. The inner packaging system must meet these tests without benefit of the outer packaging.

27. In § 173.301, revise paragraphs (f)(1), (f)(2), and (h)(2)(i), and add paragraph (f)(7) 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.

* * * * *

(f) Pressure relief device systems. (1) Except as provided in paragraphs (f)(5) through (f)(7) and (j) of this section, and § 171.23(a) of this subchapter, a cylinder filled with a gas and

offered for transportation must be equipped with one or more pressure relief devices sized and selected as to type, location, and quantity, and tested in accordance with CGA S-1.1 (compliance with paragraph 9.1.1.1 is not required) and CGA Pamphlet S-7 (IBR, see § 171.7 of this subchapter). The pressure relief device must be capable of preventing rupture of the normally filled cylinder when subjected to a fire test conducted in accordance with CGA C-14 (IBR, see § 171.7 of this subchapter), or, in the case of an acetylene cylinder, CGA C-12 (IBR, see § 171.7 of this subchapter).

(2) A pressure relief device, when installed, must be in communication with the vapor space of a cylinder containing a Division 2.1 (flammable gas) material. This requirement does not apply to DOT Specification 39 cylinders of 1.2L (75 cubic inches) or less in volume filled with a Liquefied petroleum gas, Methyl acetylene and Propadiene mixtures, stabilized, Propylene, Propane or Butane.

* * * * *

(7) A pressure relief device is not required on a DOT Specification 3E cylinder measuring up to 50mm (2 inches) in diameter by 305mm (12 inches) in length for the following specified gases and maximum weight limits:

- (i) Carbon Dioxide 0.24L (8 oz.)
- (ii) Ethane 0.12L (4 oz.)
- (iii) Ethylene 0.12L (4 oz.)
- (iv) Hydrogen Chloride, anhydrous 0.24L (8 oz.)
- (v) Monochlorotrifluoromethane 0.35L (12 oz.)
- (vi) Nitrous oxide, 0.24L (8 oz.)
- (vii) Vinyl fluoride, stabilized 0.24L (8 oz.)

* * * * *

(h) * * *

(2) * * *

(i) By equipping the cylinder with securely attached metal or plastic caps of sufficient strength to protect valves from damage during transportation;

* * * * *

28. In § 173.302, revise paragraph (f)(1) to read as follows:

§ 173.302 Filling of cylinders with nonliquefied (permanent) compressed gases or adsorbed gases.

* * * * *

(f) * * *

(1) Only DOT specification 3A, 3AA, 3AL, 3E, 3HT, 39 cylinders, 4E (filled to less than 200 psig at 21 °C (70 °F), and UN pressure receptacles ISO 9809-1, ISO 9809-2, ISO 9809-3 and ISO 7866 cylinders are authorized.

* * * * *

29. In § 173.302a:

- a. Revise paragraphs (a)(1) and (a)(5);
- b. Add paragraph (a)(6);
- c. Redesignate paragraphs (c), (d) and (e) as paragraphs (d), (e), and (f); and
- d. Add new paragraph (c).

The revisions and additions are to read as follows:

§ 173.302a Additional requirements for shipment of nonliquefied (permanent) compressed gases in specification cylinders.

(a) * * *

(1) DOT 3, 3A, 3AA, 3AL, 3B, 3E, 4B, 4BA, 4BW, and 4E cylinders.

* * * * *

(5) Aluminum cylinders manufactured in conformance with specifications DOT 39, 3AL and 4E are authorized for oxygen only under the conditions specified in § 173.302(b).

(6) DOT 4E cylinders- DOT 4E cylinders with a maximum capacity of 43L (11 gal) must have a minimum rating of 240 psig and be filled to no more than 200 psig at 21 °C (70 °F).

* * * * *

(c) Special filling limits for DOT 3A, 3AX, 3AA, and 3AAX cylinders containing Division 2.1 gases. Except for transportation by aircraft, a DOT specification 3A, 3AX, 3AA, and 3AAX cylinder may be filled with hydrogen and mixtures of hydrogen with helium, argon or nitrogen, to a pressure 10 % in excess of its marked service pressure subject to the following conditions:

(1) The cylinder must conform to the requirements of paragraph (b)(2) and (b)(3) of this section;

(2) The cylinder was manufactured after December 31, 1945;

(3) DOT specification 3A and 3AX cylinders are limited to those having an intermediate manganese composition.

(i) Cylinders manufactured with intermediate manganese steel must have been normalized, not quench and tempered. Quench and temper treatment of intermediate steel is not authorized.

(ii) Cylinders manufactured with chrome moly steel must have been quenched and tempered, not normalized. Use of normalized chrome moly steel cylinders is not permitted.

(4) Cylinders must be equipped with pressure relief devices as follows:

(i) Cylinders less than 1.7 m (65 inches) in length must be equipped with fusible metal backed frangible disc devices;

(ii) Cylinders 1.7 m (65 inches) or greater in length and 24.5 cm (9.63 inches) in diameter or larger must be equipped with fusible metal backed frangible disc devices or frangible disc devices. Cylinders with a diameter of 0.56 m (22 inches) or larger must be equipped with frangible disc devices.

* * * * *

30. In § 173.304, revise paragraph (d) to read as follows:

§ 173.304 Filling of cylinders with liquefied compressed gases.

* * * * *

(d) Refrigerant and dispersant gases. Nontoxic and nonflammable refrigerant or dispersant gases must be offered for transportation in cylinders prescribed in § 173.304a of this subchapter, or in DOT 2P, 2Q, or 2Q1 containers (§§ 178.33, 178.33a, and 178.33d-2 of this subchapter). DOT 2P, 2Q, and 2Q1 containers must be packed in strong outer packagings of such design that protect valves from damage or accidental functioning under conditions incident to transportation. For DOT 2P and 2Q containers, the pressure inside the containers may not exceed 87 psia at 21.1°C (70 °F). For 2Q1 containers, the pressure inside the container may not exceed 210 psig at 55 °C (131 °F). Each completed metal container filled for shipment must be heated until its contents reach a minimum temperature of 55 °C (131 °F) without evidence of

leakage, distortion, or other defect. Each outer package must be plainly marked “INSIDE CONTAINERS COMPLY WITH PRESCRIBED SPECIFICATIONS”.

* * * * *

31. In § 173.304a, in the paragraph (a)(2) table, add three new entries each for Carbon dioxide and Nitrous oxide alphabetically and in numerical order according to the maximum permitted filling density to read as follows:

§ 173.304a Additional requirements for shipment of liquefied compressed gases in specification cylinders.

(a) * * *

(2) * * *

Kind of gas	Maximum permitted filling density (%) (see Note 1)	Packaging marked as shown in this column or of the same type with higher service pressure must be used, except as provided in §§ 173.301(l), 173.301a(e), and 180.205(a) (see notes following table)
* *	* * *	* *
Carbon dioxide (see Notes 4, 7, and 8)	70.3	DOT- 3A2000, DOT-3AA2000, DOT-3AX2000, DOT-3AAX2000, DOT-3T2000
Carbon dioxide (see Notes 4, 7, and 8)	73.2	DOT- 3A2265, DOT-3AA2265, DOT-3AX2265, DOT-3AAX2265, DOT- 3T2265
Carbon dioxide (see Notes 4, 7, and 8)	74.5	DOT- 3A2400, DOT-3AA2400, DOT- 3AX2400, DOT- 3AAX2400, DOT-3T2400
* *	* * *	* *
Nitrous oxide (<i>see</i> Notes 7, 8, and 11)	70.3	DOT- 3A2000, DOT-3AA2000, DOT-3AX2000, DOT-3AAX2000, DOT-3T2000
Nitrous oxide (<i>see</i> Notes 7, 8, and 11)	73.2	DOT- 3A2265, DOT-3AA2265, DOT-3AX2265, DOT-3AAX2265, DOT-3T2265
Nitrous oxide (<i>see</i> Notes 7, 8, and 11)	74.5	DOT- 3A2400, DOT-3AA2400, DOT-3AX2400, DOT-3AAX2400, DOT-3T2400

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32. In § 173.306:

- a. Revise paragraphs (a) and (b);
- b. Add paragraph (e)(2); and
- c. Revise paragraphs (f) and (k).

The revisions and additions read as follows:

§ 173.306 Limited quantities of compressed gases.

(a) Limited quantities of compressed gases for which exceptions are permitted as noted by reference to this section in § 172.101 of this subchapter are excepted from labeling, except when offered for transportation or transported by air, and, unless required as a condition of the exception, specification packaging requirements of this subchapter when packaged in accordance with the following paragraphs. For transportation by aircraft, the package must conform to the applicable requirements of § 173.27 and only packages of hazardous materials authorized aboard passenger-carrying aircraft may be transported as a limited quantity. In addition, shipments are not subject to subpart F (Placarding) of part 172 of this subchapter, to part 174 of this subchapter except § 174.24, and to part 177 of this subchapter except § 177.817. Except as otherwise provided in this section, each package may not exceed 30 kg (66 lbs.) gross weight.

(1) When in containers of not more than 4 fluid ounces capacity (7.22 cubic inches or less) except cigarette lighters. Additional exceptions for certain compressed gases in limited quantities and the ORM-D hazard class are provided in paragraph (i) of this section.

(2) When in refillable metal containers filled with a material that is not classed as a hazardous material to not more than 90 % of capacity at 21.1 °C (70 °F) and then charged with nonflammable, nonliquefied gas. Each container must be tested to three times the pressure at 21.1 °C (70 °F) and, when refilled, be retested to three times the pressure of the gas at 21.1 °C (70 °F). Also, one of the following conditions must be met:

(i) The container is not over 0.95 L (1 quart) capacity and charged to not more than 170 psig (1172.1 kPa) at 21.1 °C (70 °F), and must be packed in a strong outer packaging; or

(ii) The container is not over 114 L (30 gallons) capacity and charged to not more than 75 psig (517.1 kPa) at 21.1 °C (70 °F).

(3) When in a metal aerosol container (see § 171.8 of this subchapter for the definition of aerosol). Authorized containers include non-specification, DOT 2P (§ 178.33 of this subchapter), DOT 2Q (§ 178.33a of this subchapter), or DOT 2Q1 (§ 178.33(d) of this subchapter) design, provided the following conditions are met. Additional exceptions for aerosol containers conforming to this paragraph (a)(3) are provided in paragraph (i) of this section.

(i) Capacity. The capacity of the container must not exceed 1 L (61.0 cubic inches).

(ii) General pressure conditions. The authorized metal aerosol containers and associated pressure limitations are provided in the following table. Pressure inside the container may not exceed 180 psig at 54.4 °C (130 °F) except as may be authorized by variations of a DOT specification container type. In any event, the metal container must be capable of withstanding without bursting a pressure of at least one and one-half times the equilibrium pressure of the contents at 54.4 °C (130 °F).

AUTHORIZED METAL AEROSOL CONTAINERS

If the gauge pressure (psig) at 54.4 °C (130 °F) is...	Authorized container
140 or less	Non-DOT specification, DOT 2P, DOT 2Q, DOT 2Q1
Greater than 140 but not exceeding 160	DOT 2P, DOT 2Q, DOT 2Q1

Greater than 160 but not exceeding 180	DOT 2Q, DOT 2Q1
Not to exceed 210	DOT 2Q1 (Non-flammable only)

(iii) Liquid fill. The liquid content of the material and gas must not completely fill the container at 54.4 °C (130 °F).

(iv) Outer packaging. The containers must be packed in strong outer packagings.

(v) Pressure testing. Except as otherwise provided in this paragraph, each container, after it is filled, must be subjected to a test performed in a hot water bath; the temperature of the bath and the duration of the test must be such that the internal pressure reaches that which would be reached at 55 °C (131 °F), or 50 °C (122 °F) if the liquid phase does not exceed 95 % of the capacity of the container at 50 °C (122 °F)). If the contents are sensitive to heat, the temperature of the bath must be set at between 20 °C (68 °F) and 30 °C (86 °F) but, in addition, one container in 2,000 must be tested at the higher temperature. No leakage or permanent deformation of a container may occur. However, instead of this standard water bath test, container(s) may be tested using one of the following methods subject to certain conditions –

(A) Alternative water bath test. (1) One filled container in a lot of 2,000 must be subjected to a test performed in a hot water bath; the temperature of the bath and the duration of the test must be such that the internal pressure reaches that which would be reached at 55 °C (131 °F). If the container shows evidence of leakage or permanent deformation, the lot of 2,000 containers must be rejected;

(2) A second filled container in the lot of 2,000 must be weighed and compared to the weight specification for the containers as documented in the operating procedures for the weight test. Failure of the container to meet the weight specification is evidence of leakage or overfilling and the lot of 2,000 must be rejected;

(3) The remainder of the containers in the lot of 2,000 must be visually inspected (e.g., examination of the seams). Containers showing evidence of leakage or overfilling must not be transported; and

(4) Each person employing this test must maintain a copy of the operating procedures (or an electronic file thereof) that is accessible at, or through, its principal place of business and must make the procedures available upon request, at a reasonable time and location, to an authorized official of the Department.

(B) Automated pressure test. Each person employing an automated process for pressure testing of filled containers must develop procedures for implementation of the test. Each person must maintain a copy of the procedures (or an electronic file thereof) that is accessible at, or through, its principal place of business and must make the procedures available upon request, at a reasonable time and location, to an authorized official of the Department. The procedures must, at a minimum, include instruction on the following:

(1) Pressure specifications. Each person must specify pressure standard(s) (e.g. a pressure limit or range) for a container respective of the design and/or contents. Each container, after it is filled, must be pressure checked and compared to the standards. For a pressure limit, any container exceeding the pressure limit must be rejected. For a pressure range, any container outside of the set range must be rejected. The instruments used to determine the pressure must be properly calibrated before a production run to an accuracy of +/- or better; and

(2) Periodic inspection. At designated intervals, a randomly selected container must be inspected for proper closure and verification of filling pressure. If a container shows signs of improper closure or over-filling, five (5) additional randomly selected containers must be

inspected. If any of the additional containers show signs of improper closure or over-filling, all containers produced since the last inspection must be rejected.

(C) Weight test. Each person employing a weight test of filled containers must develop procedures for implementation of the test. Each person must maintain a copy of the procedures (or an electronic file thereof) that is accessible at, or through, its principal place of business and must make the procedures available upon request, at a reasonable time and location, to an authorized official of the Department. The procedures must, at a minimum, include instruction on the following:

(1) Weight specifications. Each person must specify target weight specifications for a particular container. Each container, after it is filled, must be weighed and compared to the target weight specification for the container. Any container outside the target weight specification is an indication of leakage or overfilling and must be rejected. The instruments used to determine the weight must be properly calibrated before a testing run and be sufficiently sensitive to measure within 0.10 g of the true weight of the container;

(2) Heat testing and pressure limits. One container out of each lot of successfully filled containers must be heat tested by raising the internal pressure until it reaches that which would be reached at 55 °C (131 °F). The lot size should be no greater than 2,000. If the pressure in the container exceeds the maximum pressure allowed for the container type or if the container shows signs of leakage or permanent deformation, the lot must be rejected. Alternatively, five (5) additional randomly selected containers from the lot may be tested to qualify the lot but if any of the five containers fail the test, the entire lot must be rejected;

(3) Periodic inspection. At intervals of not more than 10 minutes, a randomly selected container must be inspected for proper closure and verification of filling pressure. If a container

shows signs of improper closure or over-filling, five (5) additional randomly selected containers must be inspected. If any of the additional containers show signs of improper closure or over-filling, all containers produced since the last inspection must be rejected; and

(4) Visual inspection. Each container must be visually inspected prior to being packed. Any container showing signs of leakage or permanent deformation must be rejected.

(D) Leakage test. (1) Pressure and leak testing before filling. Each empty container must be subjected to a pressure equal to or in excess of the maximum expected in the filled containers at 55 °C (131 °F) or 50 °C (122 °F) if the liquid phase does not exceed 95 % of the capacity of the container at 50 °C (122 °F). This must be at least two-thirds of the design pressure of the container. If any container shows evidence of leakage at a rate equal to or greater than 3.3×10^{-2} mbar L/s at the test pressure, distortion or other defect, it must be rejected; and

(2) Testing after filling. The person filling each container must ensure that the crimping equipment is set appropriately and the specified propellant is used before filling a container. Once filled, each container must be weighed and leak tested. The leak detection equipment must be sufficiently sensitive to detect at least a leak rate of 2.0×10^{-3} mbar L/s at 20 °C (68 °F). Any filled container which shows evidence of leakage, deformation, or overfilling must be rejected.

(vi) Each outer packaging must be marked “INSIDE CONTAINERS COMPLY WITH PRESCRIBED REGULATIONS.”

(4) Gas samples must be transported under the following conditions:

(i) A gas sample may only be transported as non-pressurized gas when its pressure corresponding to ambient atmospheric pressure in the container is not more than 105 kPa absolute (15.22 psia).

(ii) Non-pressurized gases, toxic (or toxic and flammable) must be packed in hermetically sealed glass or metal inner packagings of not more than one L (0.3 gallons) overpacked in a strong outer packaging.

(iii) Non-pressurized gases, flammable must be packed in hermetically sealed glass or metal inner packagings of not more than 5 L (1.3 gallons) and overpacked in a strong outer packaging.

(5) For limited quantities of Division 2.2 gases with no subsidiary risk, when in a non-DOT specification or a specification DOT 2S (§ 178.33b of this subchapter) plastic aerosol container (see § 171.8 of this subchapter for the definition of aerosol) provided all of the following conditions are met. Additional exceptions for aerosols conforming to this paragraph (a)(5) are provided in paragraph (i) of this section.

(i) Capacity. The capacity of the container must not exceed 1 L (61.0 cubic inches).

(ii) General pressure conditions. Authorized plastic aerosol containers and associated pressure limitations are provided in the following table. The pressure in the container must not exceed 160 psig at 54.4 °C (130 °F). The container must be capable of withstanding without bursting a pressure of at least one and one-half times the equilibrium pressure of the contents at 54.4 °C (130 °F).

AUTHORIZED PLASTIC AEROSOL CONTAINERS

If the gauge pressure (psig) at 55 °C (131 °F) is...	Authorized plastic container
Less than 140	Non-DOT specification, DOT 2S
140 or greater but not exceeding 160	DOT 2S

(iii) Liquid fill. Liquid content of the material and gas must not completely fill the container at 54.4 °C (130 °F).

(iv) Outer packaging. The containers must be packed in strong outer packagings.

(v) Pressure testing. Except as provided in paragraph (a)(5)(vi) of this section, each container must be subjected to a test performed in a hot water bath. The temperature of the bath and the duration of the test must be such that the internal pressure reaches that which would be reached at 55 °C (131 °F) or 50 °C (122 °F) if the liquid phase does not exceed 95 % of the capacity of the container at 50 °C (122 °F). If the contents are sensitive to heat, or if the container is made of plastic material which softens at this test temperature, the temperature of the bath must be set at between 20 °C (68 °F) and 30 °C (86 °F) but, in addition, one container in 2,000 must be tested at the higher temperature. No leakage or permanent deformation of a container is permitted except that a plastic container may be deformed through softening provided that it does not leak.

(vi) Leakage test. As an alternative to the hot water bath test in paragraph (a)(5)(v) of this section, testing may be performed as follows:

(A) Pressure and leak testing before filling. Each empty container must be subjected to a pressure equal to or in excess of the maximum expected in the filled containers at 55 °C (131 °F) or 50 °C (122 °F) if the liquid phase does not exceed 95 % of the capacity of the container at 50 °C (122 °F). This must be at least two-thirds of the design pressure of the container. If any container shows evidence of leakage at a rate equal to or greater than 3.3×10^{-2} mbar L/s at the test pressure, distortion or other defect, it must be rejected; and

(B) Testing after filling. Prior to filling, the filler must ensure that the crimping equipment is set appropriately and the specified propellant is used before filling the container. Once filled, each container must be weighed and leak tested. The leak detection equipment must be sufficiently sensitive to detect at least a leak rate of 2.0×10^{-3} mbar L/s at 20 °C (68 °F). Any

filled container that shows evidence of leakage, deformation, or excessive weight must be rejected.

(vii) Each outer packaging must be marked “INSIDE CONTAINERS COMPLY WITH PRESCRIBED REGULATIONS.”

(b) Exceptions for foodstuffs, soap, biologicals, electronic tubes, and audible fire alarm systems. Limited quantities of compressed gases (except Division 2.3 gases) for which exceptions are provided as indicated by reference to this section in § 172.101 of this subchapter, when in conformance with one of the following paragraphs, are excepted from labeling, except when offered for transportation or transported by aircraft, and the specification packaging requirements of this subchapter. For transportation by aircraft, the package must conform to the applicable requirements of § 173.27 and only packages of hazardous materials authorized aboard passenger-carrying aircraft may be transported as a limited quantity. In addition, shipments are not subject to subpart F (Placarding) of part 172 of this subchapter, to part 174 of this subchapter, except § 174.24, and to part 177 of this subchapter, except § 177.817. Additional exceptions for certain compressed gases in limited quantities and the ORM-D hazard class are provided in paragraph (i) of this section.

(1) Foodstuffs or soaps with soluble or emulsified compressed gas are authorized in non-refillable metal or plastic containers not to exceed 1 L (61.0 cubic inches) capacity provided the pressure in each container does not exceed 140 psig at 54.4 °C (130 °F) unless authorized by variation of a container type. For pressures ranging from greater than 140 psig to 160 psig, a variation DOT 2P1 or DOT 2Q2 (§§ 178.33(c) and (d) of this subchapter, respectively) container must be used. However, the pressure of the contents in the container may not be greater than 150 psig at 23.9 °C (75 °F). Plastic containers may only contain Division 2.2 non-flammable soluble

or emulsified compressed gas. Metal or plastic containers must be capable of withstanding, without bursting, a pressure of at least one and one-half times the equilibrium pressure of the contents at 54.4 °C (130 °F).

AUTHORIZED AEROSOL CONTAINERS FOR FOODSTUFFS AND SOAPS

If the gauge pressure (psig) at 54.4 °C (130 °F) is...	Authorized container
Not exceeding 140	Non-DOT specification, DOT 2P, DOT 2P1, DOT 2Q, DOT 2Q2
Greater than 140 but not exceeding 160	DOT 2P, DOT 2P1, DOT 2Q, DOT 2Q2
Greater than 160 but not exceeding 180	DOT 2Q, DOT 2Q2

(i) Containers must be packed in strong outer packagings.

(ii) Liquid content of the material and the gas must not completely fill the container at 55 °C (131 °F).

(iii) Each outer packaging must be marked “INSIDE CONTAINERS COMPLY WITH PRESCRIBED REGULATIONS.”

(2) Cream in refillable metal or plastic containers with soluble or emulsified compressed gas. Plastic containers must only contain Division 2.2 non-flammable soluble or emulsified compressed gas. Containers must be of such design that they will hold pressure without permanent deformation up to 375 psig and must be equipped with a device designed so as to release pressure without bursting of the container or dangerous projection of its parts at higher pressures. This exception applies to shipments offered for transportation by refrigerated motor vehicles only.

(3) Nonrefillable metal or plastic containers charged with a Division 6.1 PG III or nonflammable solution containing biological products or a medical preparation that could be deteriorated by heat, and compressed gas or gases. Plastic containers may only contain 2.2 non-flammable soluble or emulsified compressed gas. The capacity of each container may not exceed 35 cubic inches (19.3 fluid ounces). The pressure in the container may not exceed 140 psig at

54.4 °C (130 °F), and the liquid content of the product and gas must not completely fill the containers at 54.4 °C (130 °F). One completed container out of each lot of 500 or less, filled for shipment, must be heated, until the pressure in the container is equivalent to equilibrium pressure of the contents at 54.4 °C (130 °F). There must be no evidence of leakage, distortion, or other defect. The container must be packed in strong outer packagings.

(4) Electronic tubes, each having a volume of not more than 30 cubic inches and charged with gas to a pressure of not more than 35 psig and packed in strong outer packagings are authorized.

(5) Audible fire alarm systems powered by a compressed gas contained in an inside metal container when shipped are authorized under the following conditions:

(i) Each inside container must have contents that are not flammable, poisonous, or corrosive as defined under this part,

(ii) Each inside container may not have a capacity exceeding 35 cubic inches (19.3 fluid ounces),

(iii) Each inside container may not have a pressure exceeding 70 psig at 21.1 °C (70 °F) and the liquid portion of the gas may not completely fill the inside container at 54.4 °C (130 °F), and

(iv) Each nonrefillable inside container must be designed and fabricated with a burst pressure of not less than four times its charged pressure at 54.4 °C (130 °F). Each refillable inside container must be designed and fabricated with a burst pressure of not less than five times its charged pressure at 54.4 °C (130 °F).

* * * * *

(e) * * *

(2) Used refrigerating machines. (i) Packaging. Reconditioned (used) refrigerating machines (UN 2857, Div. 2.2) may be excepted from the marking requirements of § 172.302(c) of this subchapter and transported by motor vehicle when they conform to the requirements prescribed in § 173.306(e)(1), are secured or permanently attached to the motor vehicle, and are:

(A) Permanently affixed to a steel base structure,

(B) Permanently affixed to a trailer, or

(C) Manufactured with a rigid internal structure designed for transportation and stacking conditions such that they do not leak and do not deteriorate, distort, or become damaged in a manner that could adversely affect their safety or reduce their strength in transportation, cause instability in stacks of refrigerating machines, or cause damage to these machines in a way that is likely to reduce safety in transportation.

(ii) Testing. Used refrigerating machines returned from their rental locations must be transported back to an authorized original equipment manufacturer service facility and undergo maintenance, repair and/or replacement that renders these machines operational at the same level as that of new refrigerating machines, and must undergo a leak test by a certified technician, prior to re-shipment.

(f) Accumulators (Articles, pressurized pneumatic or hydraulic containing non-flammable gas). The following applies to accumulators, which are hydraulic accumulators containing nonliquefied, nonflammable gas, and nonflammable liquids or pneumatic accumulators containing nonliquefied, nonflammable gas, fabricated from materials which will not fragment upon rupture.

(1) Accumulators installed in motor vehicles, construction equipment, and assembled machinery and designed and fabricated with a burst pressure of not less than five times their charged pressure at 70 °F, when shipped, are not subject to the requirements of this subchapter.

(2) Accumulators charged with limited quantities of compressed gas to not more than 200 psig at 70 °F are excepted from labeling (except when offered for transportation by air) and the specification packaging requirements of this subchapter when shipped under the following conditions. In addition, shipments are not subject to subpart F (placarding) of part 172 of this subchapter, to part 174 of this subchapter except § 174.24 and to part 177 of this subchapter except § 177.817.

(i) Each accumulator must be shipped as an inside packaging;

(ii) Each accumulator may not have a gas space exceeding 2,500 cubic inches under stored pressure; and

(iii) Each accumulator must be tested, without evidence of failure or damage, to at least three times its charged pressure of 70 °F, but not less than 120 psi before initial shipment and before each refilling and reshipment.

(3) Accumulators with a charging pressure exceeding 200 psig at 70 °F and in compliance with the requirements stated in paragraph (f)(2) of this section, as applicable, are excepted from labeling (except when offered for transportation by air) and the specification packaging requirements of this subchapter when shipped under the following conditions:

(i) Each accumulator must be designed and fabricated with a burst pressure of not less than five (5) times its charged pressure at 70 °F when shipped;

(ii) For an accumulator with a gas space not to exceed 100 cubic inches, it must be designed and fabricated with a burst pressure of not less than five (5) times its charged pressure

at 70 °F. Out of each lot not to exceed 1,000 successively produced accumulators per day of the same type, accumulators must be tested, in lieu of the testing of paragraph (f)(2)(iii) of this section, as follows:

(A) One (1) accumulator must be tested to the minimum design burst pressure;

(B) Two (2) accumulators, one at the beginning of production and one at the end must be tested to at least two and a half times the charge pressure without evidence of leakage or distortion;

(C) If accumulators fail either test, an additional four (4) sets of accumulators from the lot may be tested. If any additional accumulators fail, the lot must be rejected;

(iii) For an accumulator with a gas space not to exceed 30 cubic inches, it must be designed and fabricated with a burst pressure of not less than four (4) times its charged pressure at 70 °F. Out of each lot not to exceed 1,000 successively produced accumulators per day of the same type, accumulators must be tested, in lieu of the testing of paragraph (f)(2)(iii) of this section, as follows:

(A) One (1) accumulator must be tested to the minimum design burst pressure;

(B) Two (2) accumulators, one at the beginning of production and one at the end must be tested to at least two and a half times the charge pressure without evidence of leakage or distortion;

(C) If accumulators fail either test, an additional four (4) sets of accumulators from the lot may be tested. If any additional accumulators fail, the lot must be rejected;

(iv) Accumulators must be packaged in strong outer packaging.

(4) Accumulators intended to function as shock absorbers, struts, gas springs, pneumatic springs or other impact or energy-absorbing devices are not subject to the requirements of this subchapter provided each:

(i) Has a gas space capacity not exceeding 1.6 L and a charge pressure not exceeding 280 bar, where the product of the capacity expressed in liters and charge pressure expressed in bars does not exceed 80 (for example, 0.5 L gas space and 160 bar charge pressure);

(ii) Has a minimum burst pressure of 4 times the charge pressure at 20 °C for products not exceeding 0.5 L gas space capacity and 5 times the charge pressure for products greater than 0.5 L gas space capacity;

(iii) Design type has been subjected to a fire test demonstrating that the article relieves its pressure by means of a fire degradable seal or other pressure relief device, such that the article will not fragment and that the article does not rocket; and

(iv) Accumulators must be manufactured under a written quality assurance program which monitors parameters controlling burst strength, burst mode and performance in a fire situation as specified in paragraphs (f)(4)(i) through (f)(4)(iii) of this section. A copy of the quality assurance program must be maintained at each facility at which the accumulators are manufactured.

(5) Accumulators not conforming to the provisions of paragraphs (f)(1) through (f)(4) of this section may only be transported subject to the approval of the Associate Administrator.

* * * * *

(k) Aerosols for recycling or disposal. Aerosols (as defined in § 171.8 of this subchapter) intended for recycling or disposal may be transported under the following conditions:

(1) Aerosols conforming to paragraph (a)(3), (a)(5), (b)(1), (b)(2), or (b)(3) of this section are not subject to the 30 kg (66 pounds) gross weight limitation when transported by motor vehicle for purposes of recycling or disposal under the following conditions:

(i) The aerosols must be packaged in a strong outer packaging. The strong outer packaging and its contents must not exceed a gross weight of 500 kg (1,100 pounds);

(ii) Each aerosol must be secured with a cap to protect the valve stem or the valve stem must be removed; and

(iii) The packaging must be offered for transportation or transported by—

(A) Private or contract motor carrier; or

(B) Common carrier in a motor vehicle under exclusive use for such service.

(2) Aerosols intended to conform to paragraphs (a)(3) or (a)(5) of this section at the time of filling but are leaking, have been improperly filled, or otherwise no longer conform to paragraphs (a)(3) or (a)(5) of this section may be offered for transportation and transported for disposal or recycling under the conditions provided in this paragraph (k)(2). Such aerosols are not eligible for the exceptions provided in paragraphs (a) and (i) of this section except for subpart F (Placarding) of part 172 of this subchapter.

(i) Packaging. (A) The aerosols must be packaged in a metal or plastic removable head UN 1A2, 1B2, 1N2 or 1H2 drum tested and marked to the PG II performance level or higher for liquids;

(B) Each drum must be provided, when necessary, with sufficient cushioning and absorption material to prevent excessive shifting of the aerosols and to eliminate the presence of any free liquid at the time the drum is closed. All cushioning and absorbent material used in the drum must be compatible with the hazardous material; and

(C) The pressure inside each completed drum, at any time during transportation, may not exceed the design test pressure marked on the drum.

(ii) Hazard communication. (A) Notwithstanding the marking requirements for non-bulk packages in § 172.301 of this subchapter, each drum must be marked “AEROSOL SALVAGE” or “AEROSOL SALVAGE DRUM” in association with the required label(s); and

(B) The overpack marking requirements of § 173.25 of this subchapter do not apply.

(3) Modal restrictions. The completed drums must be offered for transportation and transported by private or contract carrier by highway or rail. Vessel and air transportation are not authorized.

* * * * *

33. In § 173.315, paragraph (a)(2) table, the entry “Division 2.2 materials not specifically provided for in this table” is revised, and a note 28 is added to the end of the table. The revision and addition read as follows:

§ 173.315 Compressed gases in cargo tanks and portable tanks.

(a) * * *

(2) * * *

Kind of gas	Maximum permitted filling density		Specification container required	
	Percent by weight (see Note 1)	Percent by volume (see par. (f) of this section)	Type (see Note 2)	Minimum design pressure (psig)
* * * * *				
Division 2.2, materials not specifically provided for in this table	See par. (c) of this section	See Note 7	DOT-51, MC-330, MC-331	See Notes 19 and 28.
* * * * *				

* * * * *

Note 28: For UN1080, Sulfur hexafluoride, a non-specification cargo tank that otherwise conforms to a DOT Specification MC 331 cargo tank except for design pressure and capacity is authorized. Design pressure may not exceed 600 psig. The water capacity range for each tank is 15 to 500 gallons.

* * * * *

34. In § 173.319, revise paragraph (d)(2) table to read as follows:

§ 173.319 Cryogenic liquids in tank cars.

* * * * *

(d) * * *

(2) * * *

PRESSURE CONTROL VALVE SETTING OR RELIEF VALVE SETTING

Maximum start-to-discharge pressure (psig)	Maximum permitted filling density (percent by weight)			
	Ethylene	Ethylene	Ethylene	Hydrogen
17				6.60
45	52.8			
75		51.1	51.1	
Maximum pressure when offered for transportation	10 psig	20 psig	20 psig	
Design service temperature	Minus 260 °F	Minus 260 °F	Minus 155 °F	Minus 423 °F.
Specification (see § 180.507(b)(3) of this subchapter)	113D60W 113C60W	113C120W	113D120W	113A175W. 113A60W.

* * * * *

PART 174--CARRIAGE BY RAIL

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

Authority: 49 U.S.C. 5101–5128; 49 CFR 1.81 and 1.97.

36. In § 174.67, revise paragraph (g) to read as follows:

§ 174.67 Tank car unloading.

* * * * *

(g) The valve cap, or the reducer when a large outlet is to be used, must be removed with a suitable wrench after the set screws are loosened and a pail must be placed in position to catch any liquid that may be in the outlet chamber. If the valve cap or reducer does not unscrew easily, it may be tapped lightly with a mallet or wooden block in an upward direction. If leakage shows upon starting the removal, the cap or reducer may not be entirely unscrewed. Sufficient threads must be left engaged and sufficient time allowed to permit the controlled escape of any accumulation of liquid in the outlet chamber. If the leakage stops or the rate of leakage diminishes materially, the cap or reducer may be entirely removed. If the initial rate of leakage continues, further efforts must be made to seat the outlet valve (see paragraph (f) of this section). If this fails, the cap or reducer must be screwed up tight and the tank must be unloaded through the dome. If upon removal of the outlet cap the outlet chamber is found to be blocked with frozen liquid or any other matter, the cap must be replaced immediately and a careful examination must be made to determine whether the outlet casting has been cracked. If the obstruction is not frozen liquid, the car must be unloaded through the dome. If the obstruction is frozen liquid and no crack has been found in the outlet casting, the car may, if circumstances require it, be unloaded from the bottom by removing the cap and attaching unloading connections immediately. Before opening the valve inside the tank car with a frozen liquid blockage:

(1) Steam must be applied to the outside of the outlet casting or the outlet casting must be wrapped with burlap or other rags and hot water applied to the wrapped casting to melt the frozen liquid; or

(2) For combustible liquid or Class 3 liquid petroleum distillate fuels, the blockage may be cleared by attaching a fitting to the outlet line and applying nitrogen at a pressure not to exceed 100 psig.

* * * * *

PART 176--CARRIAGE BY VESSEL

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

Authority: 49 U.S.C. 5101–5128; 49 CFR 1.81 and 1.97.

38. Revise § 176.90 to read as follows:

§ 176.90 Private automobiles.

(a) Class 1 (explosive) material. A private automobile which is carrying any Class 1 (explosive) material (except permitted fireworks or small arms ammunition) may not be transported on a passenger-carrying ferry vessel unless the Class 1 (explosive) material conforms to the packaging, labeling, marking, and certification requirements of this subchapter. Permitted fireworks and small arms ammunition may be carried without the required packaging, labeling, marking, or certification if they are in tight containers.

(b) Engines, gasoline, or liquefied petroleum gas. Engines, internal combustion, flammable gas powered or flammable liquid powered, including when fitted in machinery or vehicles (i.e. motor vehicles, recreational vehicles, campers, trailers), vehicle flammable liquid or flammable gas powered, gasoline, and petroleum gases, liquefied or liquefied petroleum gas when included as part of a motor home, recreational vehicle, camper, or trailer; are excepted from the requirements of this subchapter if the following conditions are met:

(1) Any container showing deterioration which might affect its integrity must not be allowed on board the vessel. A visual inspection by a responsible member of the crew must be

made of each cylinder of liquefied petroleum gas before it may be allowed aboard the vessel. A cylinder that has a crack or leak, is bulged, has a defective valve or a leaking or defective pressure relief device, or bears evidence of physical abuse, fire or heat damage, or detrimental rusting or corrosion, may not offered for transportation on board the vessel. Leaking or damaged containers of gasoline may not be offered for transportation on board the vessel.

(2) Motor vehicles may be stowed in the same hold or compartment or on the vehicle deck of passenger vessels with cylinders of liquefied petroleum gas when the cylinders are securely attached to recreational vehicles, such as campers or trailers.

(3) Extra containers of gasoline (including camp stove or lantern fuel) and portable cylinders of liquefied petroleum gas (including cylinders for camping equipment) not securely attached to recreational vehicles must be stowed in the vessel's paint locker. Containers must be securely closed.

(4) All liquefied petroleum gas cylinders must be secured by closing the shut-off valves prior to the recreational vehicles being loaded on the vessels. The owner or operator of each recreational vehicle must be directed to close all operating valves within the vehicles.

(5) "No smoking" signs must be posted on the vehicle decks and, if used for storage of hazardous materials; in close proximity to the vessel's paint locker.

(6) An hourly patrol of the vehicle decks must be made by a crewmember. Any unusual or dangerous situation must be reported to the vessel's master.

(7) Passengers may be allowed on the vehicle decks during the voyage and are subject to the control of the crew personnel conducting the continuous vehicle deck patrol.

(8) Each person responsible for performing a function authorized by this section must be trained in accordance with subpart H of part 172 of this subchapter and on the requirements of this section.

(9) Shipments made under this paragraph are subject to the Incident Reporting requirements prescribed in §§ 171.15 and 171.16 of this subchapter.

39. In § 176.800, revise paragraph (a) to read as follows:

§ 176.800 General stowage requirements.

(a) Each package required to have a Class 8 (corrosive) label thereon being transported on a vessel must be stowed clear of living quarters, and away from foodstuffs and cargo of an organic nature. For the purposes of this section, food ingredients intended for human consumption (ingredients) that are Class 8 (corrosive) materials are not considered to be incompatible with other food ingredients if the intended use of those ingredients is for the manufacture of food, or food ingredients containing those food ingredients (or like ingredients), with or without other ingredients.

* * * * *

PART 177--CARRIAGE BY PUBLIC HIGHWAY

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

AUTHORITY: 49 U.S.C. 5101-5128; sec. 112 of Pub. L. 103-311, 108 Stat. 1673, 1676 (1994); sec. 32509 of Pub. L. 112-141, 126 Stat. 405, 805 (2012); 49 CFR 1.81 and 1.97.

41. In § 177.834, revise paragraphs (i)(3), (i)(4), and (l)(2)(i), and remove and reserve paragraph (l)(2)(ii) to read as follows:

§ 177.834 General requirements.

* * * * *

(i) * * *

(3) A qualified person “attends” the loading or unloading of a cargo tank only if, throughout the process:

(i) Except for unloading operations subject to §§ 177.837(d), 177.840(p), and 177.840(q), the qualified person is within 7.62 m (25 feet) of the cargo tank. The qualified person attending the unloading of a cargo tank must be alert and have an unobstructed view of the cargo tank and delivery hose to the maximum extent practicable during the unloading operation;

(ii) The qualified person observes all loading or unloading operations by means of video cameras and monitors or instrumentation and signaling systems such as sensors, alarms, and electronic surveillance equipment located at a remote control station, and the loading or unloading system is equipped as follows:

(A) For a video monitoring system used to meet the attendance requirement, the camera must be mounted so as to provide an unobstructed view of all equipment involved in the loading or unloading operations, including all valves, hoses, domes, and pressure relief devices.

(B) For an instrumentation and signaling system used to meet the attendance requirement, the system must provide a surveillance capability at least equal to that of a human observer.

(C) Upon loss of video monitoring capability or instrumentation and signaling systems, loading or unloading operations must be immediately terminated.

(D) Shut-off valves operable from the remote control station must be provided.

(E) In the event of a remote system failure, a qualified person must immediately resume attending the loading or unloading of the cargo tank as provided in paragraph (i)(3)(i) of this section.

(F) A containment area must be provided capable of holding the contents of as many cargo tank motor vehicles as might be loaded at any single time.

(G) A qualified person must personally conduct a visual inspection of each cargo tank motor vehicle after it is loaded, prior to departure, for any damage that may have occurred during loading.

(iii) Hoses used in the loading or unloading operations are equipped with cable-connected wedges, plungers, or flapper valves located at each end of the hose, able to stop the flow of product from both the source and the receiving tank within one second without human intervention in the event of a hose rupture, disconnection, or separation.

(A) Prior to each use, each hose must be inspected to ensure that it is of sound quality, without defects detectable through visual observation; and

(B) The loading or unloading operations must be physically inspected by a qualified person at least once every sixty (60) minutes.

(4) A person is “qualified” if he has been made aware of the nature of the hazardous material which is to be loaded or unloaded, has been instructed on the procedures to be followed in emergencies, and except for persons observing loading or unloading operations by means of video cameras and monitors or instrumentation and signaling systems such as sensors, alarms, and electronic surveillance equipment located at a remote control station and persons inspecting hoses in accordance with paragraph (i)(3)(iii) of this section, is authorized to move the cargo tank, and has the means to do so.

* * * * *

(1) * * *

(2) * * *

(i) Use of combustion cargo heaters. A motor vehicle equipped with a combustion cargo heater may be used to transport Class 3 (flammable liquid) or Division 2.1 (flammable gas) materials only subject to the following conditions:

(A) The combustion cargo heater is powered by diesel fuel or propane and each of the following requirements are met:

- (1) Electrical apparatus in the cargo compartment is non-sparking or explosion proof.
- (2) There is no combustion apparatus in the cargo compartment.
- (3) There is no connection for return of air from the cargo compartment to the combustion apparatus.
- (4) The heating system will not heat any part of the cargo to more than 54 °C (130 °F).
- (5) Heater requirements under § 393.77 of this title are complied with.
- (6) The heater unit and its fuel supply must be externally mounted on the truck or trailer.
- (7) The heater unit must retain combustion in a sealed combustion chamber.
- (8) The heater unit must utilize outside air for combustion (air from the cargo space cannot be used for combustion).
- (9) Heater unit combustion gases must be exhausted to the outside of the truck or trailer.

(B) The combustion cargo heater is a catalytic heater and each of the following requirements are met:

- (1) The heater's surface temperature cannot exceed 54 °C (130 °F)—either on a thermostatically controlled heater or on a heater without thermostatic control when the outside or ambient temperature is 16 °C (61 °F) or less.
- (2) The heater is not ignited in a loaded vehicle.
- (3) There is no flame, either on the catalyst or anywhere in the heater.

(4) The manufacturer has certified that the heater meets the requirements under paragraph (l)(2)(i)(B) of this section by permanently marking the heater “MEETS DOT REQUIREMENTS FOR CATALYTIC HEATERS USED WITH FLAMMABLE LIQUID AND GAS.”

(5) The heater is also marked “DO NOT LOAD INTO OR USE IN CARGO COMPARTMENTS CONTAINING FLAMMABLE LIQUID OR GAS IF FLAME IS VISIBLE ON CATALYST OR IN HEATER.”

(6) Heater requirements under § 393.77 of this title are complied with.

(ii) [Reserved]

* * * * *

42. In § 177.838, the heading of the section is revised and paragraph (i) is added to read as follows:

§ 177.838 Class 4 (flammable solid) materials, Class 5 (oxidizing) materials, and Division 4.2 (self-heating and pyrophoric liquid) materials.

* * * * *

(i) Division 4.2 (self-heating liquid) material. Notwithstanding the segregation requirements of § 177.848(d), the following Division 4.2 (self-heating) materials may be transported on the same transport vehicle with Class 8 (corrosive) materials. The hazardous materials must be palletized with a minimum height of 100 mm (4 inches) off the floor of the vehicle, and the self-heating material must be separated from the corrosive material by a minimum horizontal distance of 1.2 m (4 feet).

(1) Sodium hydrosulfite or sodium dithionite, UN1384, in PG II or III packaged in UN 1A2 steel drums that meet the Packing Group II performance requirements of subpart M of part 178 of this title.

(2) Thiourea dioxide, UN3341, in PG II or III packaged in UN 1G fiber drums meeting packing group II performance requirements of subpart M of part 178 of this subchapter.

(3) Self-heating, solid, organic, n.o.s., UN3088, in PG II or III packaged in UN 1G fiber drums meeting the Packing Group II performance level requirements of subpart M of part 178 of this subchapter.

43. In § 177.840, add paragraph (a)(3) to read as follows:

§ 177.840 Class 2 (gases) materials.

(a) * * *

(3) Cylinders containing material classed as Division 2.3, Hazard Zone A. (i)

Notwithstanding the segregation requirements of § 177.848(d), a cylinder containing a Division 2.3, Hazard Zone A materials may be transported on the same transport vehicle with materials classed as Division 2.1, Class 3, Class 4, Class 5, and Class 8 if all of the following requirements are met:

(A) The Division 2.3, Hazard Zone A material must be packaged as authorized by this subchapter. In addition, each package must be must be placed in a plastic bag which is taped closed and then overpacked in a UN 1A2 steel drum tested and marked for a PG II or higher performance level with insulation material inside to protect the cylinders from fire. The outside of the overpack must be marked with an indication that the inner packagings conform to the prescribed specifications.

(B) A Division 2.1 material requiring strong non-bulk outer packagings in accordance with § 173.301(a)(9) of this subchapter must be overpacked in a UN 1A2 steel or 1H2 plastic drum tested and marked for a PG II or higher performance level. The outside of the overpack

must be marked with an indication that the inner packagings conform to the prescribed specifications.

(C) Packages containing Division 2.3 Hazard Zone A material must be separated within the transport vehicle from packages containing Division 2.1, Class 3, Class 4, Class 5, and Class 8 materials by a minimum horizontal distance of 1.2 m (4 feet). In addition, all steel or plastic overpacks containing packages of Division 2.3, Hazard Zone A or Division 2.1 material must be placed on pallets within the transport vehicle.

(ii) Notwithstanding the segregation requirements of § 177.848(d), Division 2.3, Hazard Zone A material may be transported on the same transport vehicle with non-bulk packagings and IBCs meeting a UN performance standard containing only the residue of Division 2.1, 4.3, 5.1, and Class 3 and 8 materials if all of the following requirements are met:

(A) The materials are transported in enclosed trailers equipped with inlet and outlet vent openings with a minimum total area of one square foot per 1,000 cubic feet of trailer volume. Electrical systems within the trailer's interior must be non-sparking or explosion proof.

(B) Cylinders must be transported in an upright position and securely restrained within the trailer, or loaded into racks, secured to pallets, or packed in wooden or fiberboard boxes or crates to prevent the cylinders from shifting or overturning within the motor vehicle under normal transportation conditions. If cylinders are secured to a pallet, the pallet must be designed to transport 1,590 kg (3,500 lbs.) per pallet and the cylinders must be secured within the pallet by a web strap rated at 4,545 kg (10,000 lbs.).

(C) A cylinder containing Division 2.3 Hazard Zone A materials must be separated from non-bulk packagings and IBCs meeting a UN performance standard containing the residue of materials in Division 2.1, 4.3, or 5.1, or Class 3 or 8 by a minimum horizontal distance of 3 m

(10 feet). The maximum gross weight of Division 2.3 Hazard Zone A material carried on one vehicle must not exceed 3,636 kg (8,000 lbs.).

(D) Motor carriers must have a satisfactory safety rating as prescribed in 49 CFR Part 385.

* * * * *

44. In § 177.841, add paragraph (f) to read as follows:

§ 177.841 Division 6.1 and Division 2.3 materials.

* * * * *

(f) Notwithstanding the segregation requirements of § 177.848(d), when transported by highway by private or contract motor carrier, Division 6.1 PG I, Hazard Zone A toxic-by-inhalation (TIH) materials meeting the definition of a hazardous waste as provided in § 171.8 of this subchapter, may be transported on the same transport vehicle with materials classed as Class 3, Class 4, Class 5, and Class 8. The Division 6.1 PG I, Hazard Zone A materials must be loaded on pallets and separated from the Class 3, Class 4, Class 5, and Class 8 materials by a minimum horizontal distance of 2.74 m (9 feet) when in conformance with the following:

(1) The TIH materials are packaged in combination packagings as prescribed in § 173.226(c) of this subchapter.

(2) The combination packages containing TIH materials must be:

(i) Filled and packed by the offeror's hazmat employees;

(ii) Be placed on pallets, when in a transport vehicle; and

(iii) Separated from hazardous materials classed as Class 3, Class 8 or Divisions 4.1, 4.2, 4.3, 5.1, or 5.2 by a nine-foot (minimum distance) buffer zone, when in a transport vehicle. The buffer zone maybe established by:

- (A) A load lock;
- (B) Empty drums;
- (C) Drums containing hazardous materials (e.g., Class 9) that are compatible with materials in all other drums immediately around them; or
- (D) Drums containing non-hazardous materials that are compatible with materials in all other drums immediately around them.

PART 178--SPECIFICATIONS FOR PACKAGINGS

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

Authority: 49 U.S.C. 5101–5128; 49 CFR 1.81 and 1.97.

46. Sections 178.33c, 178.33c-1, and 178.33c-2 are added to subpart B to read as follows:

§ 178.33c Specification 2P; inner nonrefillable metal receptacle variation.

§ 178.33c-1 Compliance.

Required in all details.

§ 178.33c-2 Variation 1.

Notwithstanding the variation provided in this section, each container must otherwise conform to a DOT 2P container in accordance with § 178.33. The following conditions also apply under Variation 1–

(a) Manufacture. Side seams: not permitted. Ends: The ends shall be designed to withstand pressure and be equipped with a pressure relief system (e.g., rim-venting release or a dome expansion device) designed to function prior to bursting of the container.

(b) Tests. (1) One out of each lot of 25,000 containers or less, successively produced per day complete with ends assembled (and without a pressure relief system assembled) shall be

pressure tested to destruction at gauge pressure and must not burst below 240 psig. For containers with a pressure relief system as described in paragraph (a) of this section and assembled, failure at a location other than the pressure relief system will reject the lot. For containers with an end expansion device, the lot must be rejected if the container bursts prior to buckling of the device.

(2) Each such 25,000 containers or less, successively produced per day, shall constitute a lot and if the test container(s) shall fail, the lot shall be rejected. Otherwise, ten (10) additional containers of each container design produced may be selected at random and subjected to the test. These containers shall be complete with ends assembled. Should any of the containers thus tested fail, the entire lot must be rejected. All containers constituting a lot shall be of like material, size, design construction, finish, and quality.

(c) Marking. By means of printing, lithographing, embossing, or stamping, each container must be marked:

(1) DOT-2P1.

(2) With the name or symbol of the person making the mark. A symbol, if used, must be registered with the Associate Administrator.

47. Sections 178.33d, 178.33d-1, 178.33d-2 and 178.33d-3 are added to subpart B to read as follows:

§ 178.33d Specification 2Q; inner nonrefillable metal receptacle variations.

§ 178.33d-1 Compliance.

Required in all details.

§ 178.33d-2 Variation 1.

Notwithstanding the variation provided in this paragraph, each container must otherwise conform to a DOT 2Q container in accordance with § 178.33a. The following conditions also apply under Variation 1–

(a) Type and size. The maximum capacity of containers in this class may not exceed 0.40 L (24.4 cubic inches). The maximum inside diameter shall not exceed 2.1 inches.

(b) Manufacture. Ends: The top of the container must be designed with a pressure relief system consisting of radial scores on the top seam(s). The bottom of the container must be designed to buckle at a pressure greater than the pressure at which the top buckles and vents.

(c) Wall thickness. The minimum wall thickness for any container shall be 0.0085 inches.

(d) Tests. (1) Two containers (one without a pressure relief system and one with) out of each lot of 25,000 or less, successively produced per day shall be pressure tested to destruction at gauge pressure. The container without a pressure relief system must not burst below 320 psig. The container assembled with a pressure relief system as described in paragraph (b) of this section must be tested to destruction. The bottom of the container must buckle at a pressure greater than the pressure at which the top buckles and vents.

(2) Each such 25,000 containers or less, successively produced per day, shall constitute a lot and if the test container(s) shall fail, the lot shall be rejected. Otherwise, ten (10) additional pairs of containers may be selected at random and subjected to the test under which failure occurred. Should any of the containers thus tested fail, the entire lot must be rejected. All containers constituting a lot shall be of like material, size, design construction, finish, and quality.

(e) Marking. By means of printing, lithographing, embossing, or stamping, each container must be marked:

(1) DOT-2Q1.

(2) With the name or symbol of the person making the mark. A symbol, if used, must be registered with the Associate Administrator.

§ 178.33d-3 Variation 2.

Notwithstanding the variation provided in this paragraph, each container must otherwise conform to a DOT 2Q container in accordance with § 178.33a. The following conditions also apply under Variation 2—

(a) Manufacture. Ends: The ends shall be designed to withstand pressure and the container equipped with a pressure relief system (e.g., rim-venting release or a dome expansion device) designed to buckle prior to the burst of the container.

(b) Tests. (1) One out of each lot of 25,000 containers or less, successively produced per day shall be pressure tested to destruction at gauge pressure and must not burst below 270 psig. For containers with a pressure relief system as described in paragraph (a) of this section and assembled, failure at a location other than the pressure relief system will reject the lot.

(2) Each such 25,000 containers or less, successively produced per day, shall constitute a lot and if the test container(s) shall fail, the lot shall be rejected. Otherwise, ten (10) additional containers of each container design produced may be selected at random and subjected to the test. These containers shall be complete with ends assembled. Should any of the containers thus tested fail, the entire lot must be rejected. All containers constituting a lot shall be of like material, size, design construction, finish, and quality.

(c) Marking. By means of printing, lithographing, embossing, or stamping, each container must be marked:

(1) DOT-2Q2.

(2) With the name or symbol of the person making the mark. A symbol, if used, must be registered with the Associate Administrator.

**PART 180--CONTINUING QUALIFICATION AND MAINTENANCE OF
PACKAGINGS**

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

Authority: 49 U.S.C. 5101-5128; 49 CFR 1.81 and 1.97.

49. Section 180.209 is amended as follows:

a. In paragraph (a), Table 1 “Requalification of Cylinders” is revised, and a footnote is added;

b. Revise paragraph (e); and

c. Amend the Table in paragraph (g) by adding an entry for “DOT 4BW” at the end of the table.

The revision and amendments read as follows.

§ 180.209 Requirements for requalification of specification cylinders.

(a) * * * * *

Table 1—Requalification of Cylinders ¹

Specification under which cylinder was made	Minimum test pressure (psig) ²	Requalification period (years)
DOT 3	3000 psig	5
DOT 3A, 3AA	5/3 times service pressure, except noncorrosive service (<i>see</i> § 180.209(g))	5, 10, or 12 (<i>see</i> § 180.209(b), (e), (f), (h), and (j))

DOT 3AL	5/3 times service pressure	5, 10 or 12 (see § 180.209(e), (j) and § 180.209(m) ³).
DOT 3AX, 3AAX	5/3 times service pressure	5, 10 (see § 180.209(e))
3B, 3BN	2 times service pressure (see § 180.209(g))	5 or 10 (see § 180.209(e), (f))
3E	Test not required	
3HT	5/3 times service pressure	3 (see §§ 180.209(k) and 180.213(c))
3T	5/3 times service pressure	5
4AA480	2 times service pressure (see § 180.209(g))	5 or 10 (see § 180.209(e) or (h))
4B, 4BA, 4BW, 4B-240ET	2 times service pressure, except non-corrosive service (see § 180.209(g))	5, 10, or 12 (see § 180.209(e), (f), and (j))
4D, 4DA, 4DS	2 times service	5
DOT 4E	2 times service pressure, except non-corrosive (see § 180.209(g))	5 or 10 (See § 180.209(e))
4L	Test not required	
8, 8AL		10 or 20 (see § 180.209(i))
Exemption or special permit cylinder	See current exemption or special permit	See current exemption or special permit
Foreign cylinder (see § 173.301(j) of this subchapter for restrictions on use)	As marked on cylinder, but not less than 5/3 of any service or working pressure marking	5 (see §§ 180.209(l) and 180.213(d)(2))

¹ Any cylinder not exceeding 2 inches outside diameter and less than 2 feet in length is excepted from volumetric expansion test.

² For cylinders not marked with a service pressure, see § 173.301a(b) of this subchapter.

³ This provision does not apply to cylinders used for carbon dioxide, fire extinguisher or other industrial gas service.

* * * * *

(e) Proof pressure test. A cylinder made in conformance with DOT Specifications 4B, 4BA, 4BW, or 4E protected externally by a suitable corrosion-resistant coating and used exclusively for non-corrosive gas that is commercially free from corroding components may be requalified by volumetric expansion testing or proof pressure testing every 10 years instead of every 5 years. When subjected to a proof pressure test, the cylinder must be carefully examined under test pressure and removed from service if a leak or defect is found.

* * * * *

(g) * * *

Cylinders conforming to...	Used exclusively for...
* * *	* * * *
DOT 4BW	Alkali metal alloys, liquid, n.o.s., Alkali metal dispersions or Alkaline earth metal dispersions, Potassium, Potassium Sodium alloys and Sodium that are commercially free of corroding components.

* * * * *

50. In § 180.213, revise paragraph (c) introductory text to read as follows:

§ 180.213 Requalification markings

* * * * *

(c) Requalification marking method. The depth of requalification markings may not be greater than specified in the applicable specification. The markings must be made by stamping, engraving, scribing, or applying a label embedded in epoxy that will remain legible and durable throughout the life of the cylinder, or by other methods that produce a legible, durable mark.

* * * * *

Marie Therese Dominguez,

Administrator,

Pipeline and Hazardous Materials Safety Administration.

[FR Doc. 2016-00780 Filed: 1/20/2016 8:45 am; Publication Date: 1/21/2016]