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**49 CFR Parts 171, 172, 173 175, 177,
and 178**

[Docket HM-139E; Amdt. Nos. 171-68, 172-76, 173-159, 175-24, 177-56 and 178-74]

**Conversion of Individual Exemptions
Into Regulations of General
Applicability**

AGENCY: Materials Transportation
Bureau (MTB), Research and Special
Programs Administration, DOT.

ACTION: Final rule.

SUMMARY: This action is being taken to incorporate into the Department's Hazardous Materials Regulations a number of changes based on the data and analyses supplied in selected exemption applications or from existing exemptions. The need for this action has been created by the public demand to make available new packagings and shipping alternatives that have proven themselves safe under the Department's exemptions program. The intended effect of these amendments is to provide wider access to the benefits of

transportation innovations recognized and shown to be effective and safe.
EFFECTIVE DATE: These amendments are effective January 5, 1983. However, compliance with the regulations as amended herein, is authorized immediately. The Director of the Federal Register approves the incorporation by reference of the National Motor Freight Classification, NMF 100-1, 1982.

FOR FURTHER INFORMATION CONTACT: Darrell L. Raines, Chief, Exemptions and Regulations Termination Branch, Office of Hazardous Materials Regulation, Materials Transportation Bureau, Washington, D.C. 20590, (202) 472-2726).

SUPPLEMENTARY INFORMATION: On July 1, 1982 the MTB published Notice No. 82-6 (47 FR 28716) under Docket HM-139E which proposed to amend the Hazardous Materials Regulations by incorporating the provisions of certain DOT exemptions into the general regulations. The public comment period ended August 30, 1982.

The MTB received only six comments which requested changes to Docket HM-139E. The following is a discussion on each comment received and of the action taken, if any.

The holder of DOT-E 8446 stated that they were not going to request renewal of their exemption beyond its present expiration date because of a lack of acceptance by consignees. Also, since MTB has pending an advanced notice of proposed rulemaking addressing Performance-Oriented Packaging Standards, the proposed change is more appropriate for Docket No. HM-181. For these reasons, the proposed change to § 173.354(a)(2) is withdrawn.

A shipper of lithium batteries under the provisions of § 173.206(f) recommended that a sentence be added to proposed § 173.1015 to specifically state that those lithium batteries which were shipped under the provisions of § 173.206(f), when new, are not subject to the Hazardous Materials Regulations when depleted. The MTB agrees that those batteries which were not subject to the Hazardous Materials Regulations

when new are also exempt when depleted. For this reason, a sentence has been added to § 173.1015 to reference § 173.206(f).

Two commenters requested that the proposed amendment for lithium batteries, depleted, be modified in order to allow the batteries to be shipped to a permitted storage site because under most circumstances it is not feasible to ship just a few batteries direct to a disposal site. The MTB agrees with the two commenters and has amended § 173.1015 accordingly. Also, one of the commenters objected to the use of the word "depleted". After further consideration, the MTB agrees that "depleted" is not the proper word to use because it is not always possible to tell if the battery is completely depleted and in most cases the installed battery is replaced with a new battery on a regular schedule regardless of the condition of the old battery. Therefore, it is necessary for these amendments to authorize shipments of new or used batteries direct to a disposal site or to a permitted storage site and then to the disposal site. The proposed shipping name of "Lithium batteries, depleted" has been changed to read "Lithium batteries, for disposal".

One of the holders of DOT-E 6898 suggested that in the proposed change to § 178.150-4 the words "polypropylene strapping" be changed to read "non-metallic strapping." The commenter stated that "non-metallic strapping" can cover different types of durable strapping other than polypropylene. The MTB agrees and is amending § 178.150-4 accordingly.

The last commenter suggested that the proposed change for lithium batteries, depleted, be incorporated in § 173.206(f) and that it not be entered as an ORM-C in § 172.101. The MTB does not agree with this commenter because it has been established that ORM-C is the proper classification as indicated in DOT-E 8441. Also, § 173.1015 was chosen as the proper section because all of the other ORM-C items are listed in Subpart M of Part 173.

List of Subjects

49 CFR Part 171

Incorporation by reference.

49 CFR Part 172

Hazardous materials transportation, labeling, packaging and containers.

49 CFR Part 173

Hazardous materials transportation, packaging and containers.

49 CFR Part 175

Hazardous materials transportation, Air carriers.

49 CFR Part 177

Hazardous materials transportation, Motor vehicles.

49 CFR Part 178

Hazardous materials transportation, Packaging and containers.

In consideration of the foregoing, 49 CFR Parts 171, 172, 173, 175, 177 and 178 are amended as follows:

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1. In § 171.7, paragraphs (c)(30) and (d)(26) are added to read as follows:

§ 171.7 Matter incorporated by reference.

(c)

(30) National Motor Freight Traffic Association, Inc., Agent, 1618 "P" Street, NW., Washington, D.C. 20036.

(d)

(26) National Motor Freight Classification, NMF 100-1, 1982.

PART 172—HAZARDOUS MATERIALS TABLES AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

2. In § 172.101, the Hazardous Materials Table is amended by adding Lithium batteries, for disposal, and Methyl isocyanate. The entry for Nitrous oxide is revised to read as follows:

§ 172.101 Hazardous Materials Table

(1) +/ E/ A/ W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) Identification number	(4) Label(s) required (if not accepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	(Add) Lithium batteries, for disposal.	ORM-C		None	None	173.1015	Forbidden	Forbidden			
	Methyl isocyanate	Flammable liquid.	UN2480	Flammable liquid and Poison.	None	173.119	Forbidden	10 gallons	1	5	Keep cool. Slow away from living quarters and sources of heat.

E/A/W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) Identification number	(4) Label(s) required (if not excepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or raicar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
(Revise)	Nitrous oxide	Nonflammable gas	UN1070	Nonflammable gas	173.303	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	Under deck stowage must be in well-ventilated space.

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

3. In § 173.60, paragraph (a)(1) is added to read as follows:

§ 173.60 Black powder and low explosives.

- (a) * * *
- (1) Specification 13 (§ 178.140 of this subchapter). Metal kegs, not less than 7 inches long. Net weight not less than 6½ pounds nor more than 150 pounds.
- (2)-(3) [Reserved].

4. In § 173.93, paragraph (a)(10) is revised to read as follows:

§ 173.93 Propellant explosives (solid) for cannon, small arms, rockets, guided missiles, or other devices, and propellant explosives (liquid).

- (a) * * *
- (10) Specification 21C (§ 178.224 of this subchapter). Fiber drum. Drums having a wooden head must contain a strong, sift-proof liner. Net weight may not exceed 265 pounds. Shipment by rail freight is prohibited except in trailer-on-flat-car service.

5. In § 173.119, paragraphs (m)(3) is revised and (m)(15) is added to read as follows:

§ 173.119 Flammable liquids not specifically provided for.

- (m) * * *
- (3) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with inside metal cans, glass or earthenware containers not over 1-quart capacity each. Inside containers must be cushioned with incombustible packing material in sufficient quantity to absorb the contents of the inner container. Use of the inside metal can is authorized only for materials which will not react dangerously with the metal can, or be decomposed by contact with it.

- (15) Specification 51 (§ 178.245 of this subchapter). Portable tank. Authorized only for a flammable liquid which is

also a Poison B liquid. Bottom outlets are not authorized.

6. In § 173.124, the first sentence of paragraph (a)(3) is revised to read as follows:

§ 173.124 Ethylene oxide.

- (a) * * *
- (3) In addition to specification packagings prescribed in this section, ethylene oxide may be shipped when packed in strong noncombustible outside packagings, with inside containers which must be securely sealed glass ampules or vials, contents not over 100 grams each, or inside aluminum cartridges, contents not over 138 grams each, cushioned in vermiculite or equally efficient noncombustible cushioning material.

7. In § 173.224, paragraph (a)(4) is revised to read as follows:

§ 173.224 Cumene hydroperoxide, dicumyl peroxide, diisopropylbenzene hydroperoxide, paramenthane hydroperoxide, pinane hydroperoxide, and tertiary butylisopropyl benzene hydroperoxide.

- (a) * * *
- (4) Specification MC-310, MC-311 or MC-312 (§ 178.343 of this subchapter). Tank motor vehicles. Authorized for diisopropylbenzene hydroperoxide of strength not exceeding 60 percent in a nonvolatile solvent. Bottom outlets are not authorized. Authorized for paramenthane hydroperoxide of strength not exceeding 60 percent in a nonvolatile solvent. Authorized for pinane hydroperoxide of strength not exceeding 45 percent in a nonvolatile solvent. Authorized for cumene hydroperoxide of strength not exceeding 90 percent in a nonvolatile solvent in MC-311 or MC-312 cargo tanks only.

8. In § 173.256, paragraph (a)(8) is added to read as follows:

§ 173.256 Compounds, cleaning liquid.

- (a) * * *

(8) Specification 12P (§ 178.211 of this subchapter). Fiberboard boxes with one inside specification 2U (§ 178.24 of this subchapter) polyethylene container of not over 5-gallon capacity or two inside specification 2U polyethylene containers of not over 2½ gallon capacity each. Wire staples are not authorized for assembly or closure of boxes, except when polyethylene container is completely enclosed in inside boxes free of wire staples or other projections that could cause failures. Not authorized for transportation by air.

9. In § 173.262, paragraph (b)(6) is added to read as follows:

§ 173.262 Hydrobromic acid.

- (b) * * *
- (6) Specification 12A (178.210 of this subchapter). Fiberboard box with not more than four inside glass bottles not over one-quart capacity each, or 12 inside glass bottles not over eight fluid ounces each. Each bottle must be enclosed in a metal can and surrounded by a noncombustible cushioning material. Box shall be constructed of at least 275-pound test (Mullen or Cady) corrugated fiberboard.

10. In § 173.297, paragraph (a)(7) is added to read as follows:

§ 173.297 Titanium sulfate solution containing not more than 45 percent sulfuric acid.

- (a) * * *
- (7) Specification 34 (§ 178.19 of this subchapter). Polyethylene container without overpack, not over 30-gallon capacity.

11. In § 173.301, paragraph (d)(1) is revised to read as follows:

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

- (d) * * *

(1) Manifolding is authorized for containers of the following gases: argon, air, carbon dioxide, helium, neon, nitrogen, nitrous oxide, oxygen or sulfur hexafluoride provided that each container is individually equipped with pressure relief devices as required by § 173.34(d) or § 173.315(i).

12. In § 173.304, the Table in paragraph (a)(2) is amended by revising the entry for sulfur hexafluoride to read as follows:

§ 173.304 Charging of cylinders with liquefied compressed gas.

- (a) * * *
- (2) * * *

Kind of gas	Maximum permitted filling density (percent) (see note 1)	Containers marked as shown in this column or of the same type with higher service pressure must be used except as provided in § 173.34(a), (b), § 173.301(j) (see notes following table)
Sulfur hexafluoride	120	DOT-3A1000; DOT-3AA1000; DOT-3AAX2400; DOT-3; DOT-3AL1000; DOT-3E1800; DOT-3T1800.

13. In § 173.314, the Table in paragraph (c) is amended as follows:

§ 173.314 Requirements for compressed gases in tank cars.

- (c) * * *

Kind of gas	Maximum permitted filling density, note 1	Required tank car, see § 173.31(a)(2) and (3)
(Revise) Methyl chloride	84	DOT-106A500X, Note 25.
	85	DOT-112T340W, 112J340W, Note 4.
	86	DOT-105A300W, Notes 4 and 23.
(Add) Nitrous oxide	Note 5	DOT-105A500W, 105A600W, Note 6.

14. In § 173.352, paragraph (a)(5) is revised and paragraph (a)(7) is added to read as follows:

§ 173.352 Sodium and potassium cyanide solutions, and cyanide solution, n.o.s.

- (a) * * *

(5) Specification MC-300, MC-301, MC-302, MC-303, MC-304, MC-305, MC-306, MC-307, or MC-312 (§§ 178.341, 178.342, 178.343 of this subchapter). Tank motor vehicles.

(7) Specification 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with inside Specification 2S or 2SL (§§ 178.35, 178.35a of this subchapter) polyethylene packaging. Not authorized for transportation by air.

15. In § 173.374, the heading, introductory text of paragraph (a) and paragraph (a)(2) are revised; paragraph (a)(4) is added to read as follows:

§ 173.374 Nitrochlorobenzene, meta or para.

(a) Nitrochlorobenzene, meta or para, must be packed in specification containers as follows:

- (1) * * *
- (2) Specification 21C (§ 178.224 of this subchapter). Fiber drums. Authorized only for nitrochlorobenzene, para, flaked. Net weight not to exceed 400 pounds.
- (3) * * *

(4) Specification MC-312 (§ 178.343 of this subchapter). Insulated cargo tank equipped with heating coils. Authorized only for nitrochlorobenzene, para, solid. Not authorized for transportation by water.

16. A new § 173.1015 is added to read as follows:

§ 173.1015 Lithium batteries, for disposal.

(a) Lithium batteries, for disposal, comprised of one or more cells, may be offered for transportation to a permitted storage facility and disposal site by motor vehicle only, if the battery:

- (1) When new, contained not more than 2 grams of lithium per cell;
- (2) Is equipped with an effective means of preventing external short circuits;

(3) Is classified and offered for transportation as an ORM-C; and

(4) Is overpacked in a strong fiberboard box, or metal or fiber drum which complies with § 173.24.

(b) Paragraph (a) does not apply to lithium batteries which, when new, were excepted from regulation under § 173.206(f).

PART 175—CARRIAGE BY AIRCRAFT

17. In § 175.320, the heading and the introductory text of paragraph (a) are revised; the Table in paragraph (a) is amended by adding the following entry to read as follows:

§ 175.320 Cargo aircraft only; only means of transportation.

(a) Notwithstanding § 172.101 of this subchapter, when means of transportation other than air are impracticable or not available, hazardous materials listed in the following table may be carried on a cargo aircraft only, subject to the conditions stated in the table and in paragraph (b) of this section and, when appropriate, paragraph (c) of this section:

Material description	Class	Conditions
Fuel, aviation, turbine engine; Methyl alcohol; or Toluene.	Flammable liquid.	Permitted in DOT specification metal drums having rated capacities of 55 gallons or less. May not be transported in the same aircraft with materials classed as Class A, B, or C explosives, blasting agents, corrosive materials or oxidizing materials. Permitted in installed tanks each having a capacity of more than 110 gal, subject to the conditions specified in paragraph (c) of this section.

PART 177—CARRIAGE BY PUBLIC HIGHWAY

18. In § 177.841, paragraph (e) is revised to read as follows:

§ 177.841 Poisons.

(e) A carrier may not transport a package bearing a poison label in the same motor vehicle with material that is marked as or known to be foodstuff, feed or any edible material intended for consumption by humans or animals unless the inside package is overpacked in a liquid-tight and dust-proof container identified as package 4000 in the National Motor Freight Classification 100-I.

PART 178—SHIPPING CONTAINER SPECIFICATIONS

19. In 173.51-15, paragraph (a) is revised to read as follows:

§ 178.51-15 Physical test.

(a) To determine yield strength, tensile strength, elongation, and reduction of area of material. Required on 2 specimens cut from one cylinder or part thereof having passed the hydrostatic test and heat-treated as required, taken at random out of each

lot of 200 or less. Physical test for spheres required on 2 specimens cut from flat representative sample plate of the same heat taken at random from the steel used to produce the sphere. This flat steel from which 2 specimens are to be cut must receive the same heat treatment as the spheres themselves. Sample plates to be taken for each lot of 200 or less spheres.

20. In § 178.102-2, the introductory text of paragraph (c) is revised to read as follows:

§ 178.102-2 Construction requirements.

(c) Two holes not exceeding 1/4 inch each are permitted diametrically opposite each other in the overpack body immediately below the top chime

or immediately above the double seam of the bottom chime or three holes not exceeding 3/16 inch in diameter on centers 120 degrees apart in the bottom head.

21. A new § 178.140 is added to read as follows:

§ 178.140 Specification 13; metal kegs.

§ 178.140-1 Compliance.

(a) Required in all details.

§ 178.140-2 Composition.

(a) To be open-hearth or electric steel, annealed dead soft; carbon not over 0.14 percent.

§ 178.140-3 Parts and dimensions.

(a) Parts and dimensions as follows:

	Gross weight of kegs and contents			Over 75 pounds but not over 150 pounds
	Not over 15 pounds	Not over 30 pounds	Over 30 pounds but not over 75 pounds	
Thickness of material:				
Body.....	30 gauge.....	28 gauge.....	24 gauge.....	24 gauge.....
Head.....	do.....	do.....	28 gauge.....	28 gauge.....
Width of lap for side seam ¹	5/16 inch.....	7/16 inch.....	7/16 inch.....	1/2 inch.....
Number of corrugations in each end of body.....	3.....	3.....	5.....	7.....
Minimum depths of corrugations.....	1/16 inch.....	3/32 inch.....	3/32 inch.....	3/32 inch.....
Width of laps on body and head seams ¹	3/16 inch.....	3/16.....	3/16 inch.....	5/16.....
Width of laps on head for head seams ¹	5/16.....	3/8 inch.....	3/8 inch.....	3/4 inch.....
Head seams.....	Double lap.....	Double lap.....	Double lap.....	Single lap.....

¹ Dimension requirements do not apply for kegs manufactured with double-seamed, compound-lined chime seams and lapped and soldered side seam.

Note.—Dimensions of materials specified are minimum requirements. Corrugations not required in body of kegs for gross weights not over 7 pounds.

§ 178.140-4 Seams.

(a) For gross weight over 75 pounds, all seams welded, brazed, soldered, or riveted, rivets at not over 5" centers.

§ 178.140-5 Closures.

(a) *Slide type.* Metal holder, for slide, securely fastened to head; washer of suitable material 0.025" thick; metal drop with depression to fit into bunghole and hold washer in place; metal slide to cover the foregoing. Positive fastening required between slide and slide holder to prevent leakage in transit; friction fastening not authorized.

(b) *Cap or plug type.* Metal holder, for cap or plug, securely fastened to head; metal cap or plug, with gasket when necessary to prevent sifting. Positive fastening required between cap, or plug, and holder to prevent leakage in transit; friction fastening not authorized.

§ 178.140-6 Marking.

(a) Marking on each container by embossing on head with raised marks as follows:

(1) DOT-13.

(2) Name or symbol of person making the mark specified in paragraph (a)(1) of this section. Symbol, if used, must be registered with the Associate Director for HMR.

§ 178.140-7 Size of markings.

(a) Size of markings (minimum); 3/16" high.

§ 178.140-8 Type test.

(a) Keg filled with fine, dry sand in weight equal to that of shipment must be capable of withstanding, without leakage, four successive drops of 4 feet on the head onto solid concrete. Tests to be made of each type and size by each company manufacturing this type of container and to be repeated every 6 months while in production. If production is discontinued and is resumed, this requirement will also apply if prescribed tests have not been made within the previous 6-month

period. Samples last tested to be retained until further tests are made or for 1 year, whichever period is shorter.

§ 178.140-9 Filling with contents.

(a) *Lining.* Cloth bag lining required for a gross weight over 32 pounds; neck of bag to be securely tied.

§ 178.140-10 Additional keg.

(a) *Stove-pipe keg.* Authorized only for shipments loaded by the shipper and to be unloaded by consignee and for a gross weight of not over 30 pounds. Must comply with all requirements, except § 178.140-5, and also with the following:

(1) Length to be about 4 times diameter; cap (slip cover) to have snug fit over body with 3" overlap.

(2) Contents to be enclosed in double paper tubes, with pasted seams, not over 2 1/2" diameter and made of tough manila paper weighing at least 50 pounds per 480 sheets 24" x 36"; outside tube to be waxed. Ends of tubes to be folded and tucked between folds of tube to prevent leakage.

22. In § 178.150-4, paragraph (a)(1) and (a)(2) are removed; paragraph (b) is added to read as follows:

§ 178.150-4 Closing for shipment.

(a) * * *

(b) Each case shall be closed for shipment with pressure-sensitive tape, non-metallic strapping, or other efficient means if they perform without failure under the tests prescribed by this section.

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53, App. A to Part 1)

Note.—The Materials Transportation Bureau has determined that this document will not result in a "major rule" under the terms of Executive Order 12291 or a significant regulation under DOT's regulatory policy and procedures (44 FR 11034), nor require an environmental impact statement under the National Environmental Policy Act (49 U.S.C. 4321 et seq.). Based on information available concerning size and nature of entities likely to be affected by this amendment, I certify that this amendment would not, if promulgated, have a significant economic impact on a substantial number of small entities because the overall economic impact of this amendment would be minimal. A regulatory evaluation and environmental assessment are available for review in the docket.

Issued in Washington, D.C. on November 22, 1982.

L. D. Santman,

Director, Materials Transportation Bureau.

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