DEPARTMENT OF TRANSPORTATION
MATERIALS TRANSPORTATION BUREAU
WASHINGTON, D.C. 20590

49 CFR Parts 172, 173, 178

Conversion of Individual Exemptions to Regulations of General Applicability

AGENCY: Materials Transportation Bureau, 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 analysis 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 packaging and shipping alternatives that have proven themselves safe under the Department's exemption 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: April 12, 1979.

FURTHER INFORMATION CONTACT:
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SUPPLEMENTARY INFORMATION: On December 18, 1978, the Materials Transportation Bureau (MTB) published a Notice of Proposed Rulemaking, Docket HM–139A; Notice No. 78–14 (43 FR 58834) which proposed these amendments. The background and the basis for incorporating these exemptions into the regulations were discussed in that notice. Interested persons were invited to give their views prior to the closing date of January 17, 1979.

Primary drafters of this document are Darrell L. Raines and John C. Allen, Office of Hazardous Materials Regulations, Exemptions and Regulations Termination Branch, and Evan C. Braude, of the Office of the Chief Counsel, Research and Special Programs Administration.

The Bureau received only five comments on Notice 78–14, all of which were favorable to the proposed changes except for slight modifications.

One commenter expressed support for the proposal to lower the silicon content in 4130X steel used for DOT Specification 3AA cylinders (E 7935). In addition, this commenter recommended that this same change also be made for AISI 4130 steel used for DOT Specification 3HT and 4DA. The Bureau agrees with the recommendation and has gone one step further and included this change for DOT Specification 4D. By making these changes, the silicon range now corresponds with that applying to DOT Specification 3T. Silicon is added to molten steel as part of the deoxidation process—e.g., to remove gaseous oxygen. While the addition of silicon is the traditional method of accomplishing this, it is not the only method. This deoxidation may be accomplished also by the addition of such chemical elements as aluminum or titanium. When such additions are made in combination with silicon, the minimum level of silicon may be lowered without any loss in the quality of the steel.

Three of the five commenters corresponding with the Bureau on Notice 78–14 voiced general support for the proposal to add diborane to the hazardous materials table and include the specific packaging previously authorized for over twenty-five years by DOT Exemption No. 930. However, each of the three commenters proposed to delete some of the requirements which have been part of the exemption, but which should not be included in the general regulations. It is maintained that these requirements are not consistent with the existing regulatory provisions pertaining to other compressed gases and are superfluous with respect to safety in transportation.

Two of the requirements pertaining to diborane proposed in Notice 78–14 are being deleted based on the above comments. First, the requirement that the cylinders be overpacked in a DOT–15A wooden box is being deleted. Instead, the shipper is being given the option of using either the wooden box or metal caps for valve protection. Secondly, the requirement for notification of the shipper by wire after receipt of a cylinder of diborane is being deleted as not directly related to safety in transit and inconsistent with requirements for other compressed gases in the hazardous materials regulations.

The biggest disagreement with the proposal to add diborane to the table in § 172.101 is over the proper hazard class and labeling required. Diborane has been shipped under E 930 for many years with the primary hazard class being flammable gas with both the flammable compressed gas label and poison gas label required.

Several commenters maintain that the primary hazard class should be poison A rather than flammable gas. However, little information has been submitted to support this contention. The holder of E 930 has had over 25 years of experience in shipping pure diborane and adamantly maintains that the primary hazard of this material is its flammability and that safety relief devices are absolutely necessary. Information on file with MTB also supports the conclusion that diborane and diborane mixed with other compatible compressed gases should be classed as flammable.

In addition, there are presently several other materials listed by name in § 172.101 which are classed as flammable gases and which require both the flammable gas label and poison label. Some of these, for example hydrogen selenide, are more toxic than diborane, yet are still not classed as Poison A because flammability is considered the primary hazard. For these reasons, MTB believes diborane should be incorporated into the regulations classed as a flammable gas.

However, the Bureau does agree with several commenters who argued that the secondary label should be poison and not poison gas. As mentioned, there are other materials in § 172.101 which are classed as a flammable gas and which also require a secondary label because of their toxicity. The secondary label required for these materials is the poison label and not the poison gas label. There is no apparent reason why labeling required for diborane should not be consistent with this practice.

In consideration of the foregoing, 49 CFR Part 172, 173, and 178 are amended as follows:

1. In § 172.101 the Hazardous Materials Table is amended as follows:

PART 172—HAZARDOUS MATERIALS TABLE AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

§ 172.101 Hazardous Materials Table.

(1)	(2)	(3)	(4)	(5)		Maximum net quantity in one package		(7)		
				Packaging				Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Labels(s) required (if not excepted)	(a) Exception	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirement
	(Add)									
	Diborane or diborane mixtures.	Flammable gas	Flammable gas and Poison	None	173.302	Forbidden	Forbidden	1	5	Separate from chlorine and materials bearing the oxidizer label.
*	*	*		*	*		*			*
	Sodium potassium alloy (liquid)	Flammable solid	Flammable solid and Dangerous when wet	None	173.202	Forbidden	25 pounds	1,2	5	Under deck stowage must be readily accessible. Segregation same as for flammable solid labeled Dangerous when wet.
*	*	*		*	*		*			*
	(Revise)									
	Sodium potassium alloy (solid)	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Under deck stowage must be readily accessible. Segregation same as for flammable solids labeled Dangerous when wet.
*	*	*		*	*		*			*
	Sulfur trioxide	Corrosive material	Corrosive	173.244	173.273	Forbidden	1 gallon	1,2	1,2	Keep dry. Glass bottles not permitted under deck
*	*	*		*	*		*			*

RT 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

2. In § 173.100 paragraph (p) is amended by changing "0.008" in the first sentence to read "0.005."

3. § 173.186 is revised to read as follows:

§ 173.186 Paper waste, wet.

Paper waste, wet, must be packed in hermetically sealed metal-lined wooden boxes or air-tight metal containers except that paper waste, wet, free from oil or other foreign matter liable to cause spontaneous ignition may be shipped in tight bales.

4. In § 173.202 the section heading and the introductory text of paragraph (a) are revised; paragraphs (a)(3) and (a)(4) are added to read:

§ 173.202 Sodium metal liquid alloy, potassium metal liquid alloy, and sodium potassium liquid alloy.

(a) Sodium metal liquid alloy, potassium metal liquid alloy, and sodium potassium liquid alloy, must be packed in specification containers as follows:

* * * *

(3) Specification 4BW240 (§ 178.81 of this subchapter) cylinder. Each cylinder must be equipped with steel valve protection caps or collars, or be packed in strong wooden boxes and secured therein to protect the valves.

(4) Specification 51 (§ 178.245 of this subchapter) portable tank. Tanks shall have a minimum design pressure of 175 pounds per square inch. Safety relief devices must communicate with the vapor space when tanks are fully loaded. Tank must be blanketed with dry nitrogen at a pressure not to exceed 15 psig at all times.

5. In § 173.245 paragraph (a)(32) is revised to read as follows:

§ 173.245 Corrosive liquids not specifically provided for.

(a) * * *

(32) Specification 103AW, 103A–ALW, 103ANW, 103BW, 103CW, 103EW, 105A100W, 105A200ALW, 111A100F2, 111A60ALW2, 111A60W2, 111A60W5, or AAR–201–A60W (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter). Tank cars. Specification 105A200ALW tank cars authorized only for acetic anhydride. Specification 105A100W and AAR–201A60W tank cars authorized only for ammonium hydroxide.

* * * *

6. In § 173.273 the heading is revised; paragraph (b) is added to read as follows:

§ 173.273 Sulfur trioxide.

* * * * *

(b) Sulfur trioxide, unstabilized, must be packed in specification containers as follows:

(1) Cylinders as prescribed for any compressed gas, except acetylene. Cylinders must be closed by metal plugs or valves. If valves are used, they must be protected by a valve protection cap, and each valve outlet must be capped or plugged. Cylinders must have a minimum service pressure of 400 psig and a maximum capacity of one gallon. Safety relief devices are not permitted. Cylinders must be overpacked in strong outside containers.

(2) Specification MC 311 or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles. Tanks must be insulated and equipped with a safety relief valve. If the valve incorporates a rupture disc it may not exceed a maximum pressure of one and one-half times the design pressure of the tank. Tanks equipped with interior heater coils not permitted.

(3) Specification 105A300W (§ 179.100, 179.101 of this subchapter). Tank car. Tank car must be externally coiled and have a safety relief valve set at not more than 225 psig. Cars equipped with interior heater coils not permitted.

(i) Each tank car must be marked "SULFUR TRIOXIDE" in accordance with the requirements of § 172.330 of this subchapter.

7. In § 173.302 paragraph (g) is added to read as follows:

§ 173.302 Charging of cylinders with non-liquefied compressed gases.

* * * * *

(g) *Diborane and diborane mixtures.* Diborane and diborane mixed with compatible compressed gas in specification 3AA1800 (§ 178.37 of this subchapter), cylinders. The maximum filling density of the diborane shall not exceed 7 percent. Diborane mixed with compatible compressed gas must not have a pressure exceeding the service pressure of the cylinder if complete decomposition of the diborane occurs. Cylinder valves must be protected either by metal caps or by over packing cylinder in strong wooden boxes.

8. In § 173.357 paragraph (b)(2) is revised to read as follows:

§ 173.357 Chloropicrin and chloropicrin mixtures containing no compressed gas or Poison A liquid.

* * * * *

(b) * * *

(2) Specification 5A or 5B (§ 178.81, 178.82 of this subchapter). Metal drums not exceeding 33-gallon capacity with welded seams. Specification 5B authorized only for chloropicrin mixtures containing not over 45 percent chloropicrin by weight. Removable head containers not authorized.

* * * * *

9. In § 173.358 paragraph (a)(15) is added to read as follows:

§ 173.358 Hexaethyl tetraphosphate, methyl parathion, organic phosphate compound, organic phosphorus compound, parathion, tetraethyl dithio pyrophosphate, and tetraethyl pyrophosphate, liquid.

(a) * * *

(15) Specification 17E (§ 178.116 of this subchapter). Steel drum (single-trip) which must be made of not less than 18-gauge body and heads. Authorized only for methyl parathion, organic phosphate compound, and parathion. Shipments authorized by private motor carrier only

10. In § 173.359 paragraphs (a)(18) and (b)(13) are added to read as follows:

§ 173.359 Hexaethyl tetraphosphate mixtures; methyl parathion mixtures; organic phosphorus compound mixtures; organic phosphate compound mixtures; parathion mixtures; tetraethyl dithio pyrophosphate mixtures; and tetraethyl pyrophosphate mixtures, liquid (includes solutions, emulsions, or emulsifiable liquids).

(a) * * *

(18) Specification 17E (§ 178.116 of this subchapter). Steel drum (single-trip), which must be made of not less than 18-gauge body and heads. Authorized for methyl parathion mixtures, organic phosphate compound mixtures, and parathion mixtures only, and by private motor carrier only.

(b) * * *

(13) Specification 17E (§ 178.116 of this subchapter). Steel drum (single-trip), which must be made of not less than 18-gauge body and heads. Authorized for methyl parathion mixtures, organic phosphate compound mixtures, and parathion mixtures only, and by private motor carrier only.

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11. In § 173.377 paragraph (b)(6) is revised to read as follows:

§ 173.377 Hexaethyl tetraphosphate mixtures; methyl parathion mixtures; organic phosphorus compound mixtures; organic phosphate compound mixtures; parathion mixtures; tetraethyl dithio pyrophosphate mixtures; and tetraethyl pyrophosphate mixtures, dry.

* * * * *

(b) * * *

(6) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with inside specification 2D (§ 178.23 of this subchapter) paper bags not over 5-pound capacity each and having an additional foil liner. Completed package

may not exceed 65 pounds gross weight and must meet the test requirements of paragraphs (d) and (e) of this section. Authorized only for mixtures in which the liquid is absorbed in concentrations no greater than 67 percent.

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PART 178—SHIPPING CONTAINER SPECIFICATIONS

§§ 178.37–5, 178.44–5, 178.53–5, 178.58–5 [Amended]

12. In § 178.37–5 the Table in paragraph (a) is amended by changing the low silicon content prescribed for 4130X steel from "0.20/0.35" to "0.15/0.35."

13. In § 178.44–5 the Table in paragraph (a) is amended by changing the low silicon content prescribed for AISI 4130 steel from "0.20/0.35" to "0.15/0.35."

14. In § 178.53–5 the Table in paragraph (a) is amended by changing the low silicon content prescribed for 4130X steel from "0.20/0.35" to "0.15/0.35."

15. In § 178.58–5 the Table in paragraph (a) is amended by changing the low silicon content prescribed for 4130 steel from "0.20/0.35" to "0.15/0.35."

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53 and paragraph (a) of Appendix A to Part 106.)

Note.—The Materials Transportation Bureau has determined that this document constitutes a non-major regulation under Executive Order 12044 and DOT implementing procedures (43 FR 9582). A regulatory evaluation is available for review in the docket.

Issued in Washington, D.C. on April 2, 1979.

L. D. Santman,
Director, Materials Transportation Bureau.

[Docket No. HM–139A; Amdt. Nos. 173–51, 173–129, 178–55]
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