



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

APR 22 1999

Mr. James O. Rimel, Sr.
Chief, Distribution Operations
Defense Logistics Agency
Defense Distribution Center
2001 Mission Drive
New Cumberland, PA 17070

Ref. No. 99-0082

Dear Mr. Rimel:

This responds to your letter of March 24, 1999, concerning requirements for shipment of motor vehicles containing fire extinguishers or other hazardous materials under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you ask whether a fire extinguisher may be mounted in the motor vehicle during shipment and shipped under the provisions of § 173.220(g) of the HMR.

Section 173.220 was recently revised. In a final rule published March 5, 1999, under Docket HM-215C, § 173.220(d) was amended to provide an exception from the requirements of the HMR for fire extinguishers, compressed gas accumulators, safety devices, and other hazardous materials that are integral components of a motor vehicle, engine, or equipment and are necessary to operate the equipment or for the safety of its operator or passengers. Such hazardous materials must be securely installed in the motor vehicle, engine, or mechanical equipment, but are not otherwise subject to the requirements of the HMR. The changes become effective on October 1, 1999. Immediate voluntary compliance is authorized.

Enclosed for your information are the pages from the *Federal Register* publication that contain the revised text for § 173.220. You can view the complete final rule by accessing the hazardous materials safety home page at



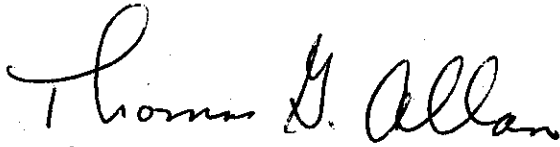
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173.220

"<http://hazmat.dot.gov>." If you do not have Internet access, you can call the Hazardous Materials Information Center at 1-800-467-4922 to obtain a copy.

I hope this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

A handwritten signature in cursive script that reads "Thomas G. Allan". The signature is written in dark ink and is positioned above the typed name.

Thomas G. Allan
Senior Transportation Regulations Specialist
Office of Hazardous Materials Standards

Enclosure

they must be packed in the outer packaging with sufficient cushioning material to prevent breakage.

(4) Either the inner packagings or the outer packagings must have inner linings or bags of strong leakproof and puncture-resistant material impervious to mercury, completely surrounding the contents, so that the escape of mercury will be prevented irrespective of the position of the package.

* * * * *

§ 173.164 [Amended]

46. In addition, in § 173.164, in paragraph (c) introductory text, the wording "not more than 100 mg (0.0035 ounce)" is removed.

47. In § 173.166, in paragraph (c), the last sentence is revised to read as follows:

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

* * * * *

(c) * * * Marking the EX number or product code on the outside package is not required.

* * * * *

§ 173.165 [Amended]

48. In addition, in § 173.166, the following changes are made:

a. In paragraph (a), in the first sentence, the wording "a booster material and a gas generant" is removed and "a booster material, a gas generant and, in some cases, a pressure vessel (cylinder)" is added in its place.

b. In paragraph (b) introductory text, the wording "as Class 9 only" is removed and "as Class 9 (UN3268) or Division 2.2 (UN3353)" is added in its place.

c. In paragraph (b)(2), the wording "second revised edition, 1995" is removed.

d. In paragraph (b)(3)(ii), the wording "as Class 9" is removed and "as Class 9 or Division 2.2" is added in its place.

e. In paragraph (c), in the second sentence, the wording "to the inflator" is removed and "to the inflator, module" is added in its place.

f. In paragraph (f), in the first sentence, the wording "or NON-FLAMMABLE GAS" is added immediately following the wording "CLASS 9".

§ 173.196 [Amended]

49. In § 173.196, paragraph (a)(1)(iii), in the first sentence, the wording "An absorbent material" is removed and "When the primary receptacle contains liquids, an absorbent material" is added in its place.

50. Section 173.220 is revised to read as follows:

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

(a) *Applicability.* An internal combustion engine, self-propelled vehicle, mechanized equipment containing an internal combustion engine, or a battery powered vehicle or equipment is subject to the requirements of this subchapter when transported as cargo on a transport vehicle, vessel, or aircraft if—

(1) The engine or fuel tank contains a liquid or gaseous fuel. An engine may be considered as not containing fuel when the fuel tank, engine components, and fuel lines have been completely drained, sufficiently cleaned of residue, and purged of vapors to remove any potential hazard and the engine when held in any orientation will not release any liquid fuel;

(2) It is equipped with a wet electric storage battery other than a non-spillable battery; or

(3) Except as provided in paragraph (d)(1) of this section, it contains other hazardous materials subject to the requirements of this subchapter.

(b) *Requirements.* Unless otherwise excepted in paragraph (b)(4) of this section, vehicles, engines and equipment are subject to the following requirements:

(1) *Flammable liquid fuel.* A fuel tank containing a flammable liquid fuel must be drained and securely closed, except that up to 500 ml (17 ounces) of residual fuel may remain in the tank, engine components, or fuel lines provided they are securely closed to prevent leakage of fuel during transportation. Self-propelled vehicles containing diesel fuel are excepted from the requirement to drain the fuel tanks, provided that sufficient ullage space has been left inside the tank to allow fuel expansion without leakage, and the tank caps are securely closed.

(2) *Flammable liquefied or compressed gas fuel.* Fuel tanks and fuel systems containing flammable liquefied or compressed gas fuel must be securely closed. For transportation by water, the requirements of § 176.78(k) and 176.905 of this subchapter apply. For transportation by air, the fuel tank and fuel system must be emptied and securely closed or must be removed, packaged and transported in accordance with the requirements of this subchapter.

(3) *Truck bodies or trailers on flat cars—flammable liquid or gas powered.* Truck bodies or trailers with automatic heating or refrigerating equipment of the flammable liquid type may be shipped with fuel tanks filled and equipment

operating or inoperative, when used for the transportation of other freight and loaded on flat cars as part of a joint rail and highway movement, provided the equipment and fuel supply conform to the requirements of § 177.834(l) of this subchapter.

(4) *Modal exceptions.* Quantities of flammable liquid fuel greater than 500 ml (17 ounces) may remain in self-propelled vehicles and mechanical equipment only under the following conditions:

(i) For transportation by motor vehicle or rail car, the fuel tanks must be securely closed.

(ii) For transportation by vessel, the shipment must conform to § 176.905 of this subchapter.

(iii) For transportation by aircraft designed or modified for vehicle ferry operations, the shipment must conform to § 175.305 of this subchapter.

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

(d) *Other hazardous materials.* (1) Items of equipment containing hazardous materials, fire extinguishers, compressed gas accumulators, safety devices and other hazardous materials which are integral components of the motor vehicle, engine or mechanical equipment and are necessary for the operation of the vehicle, engine or equipment, or for the safety of its operator or passengers must be securely installed in the motor vehicle, engine or mechanical equipment. Such items are not otherwise subject to the requirements of this subchapter.

(2) Other hazardous materials must be packaged and transported in accordance with the requirements of this subchapter.

(e) *Exceptions.* Except as provided in paragraph (d)(2) of this section, shipments made under the provisions of this section—

(1) Are not subject to any other requirements of this subchapter, for transportation by motor vehicle or rail car; and

(2) Are not subject to the requirements of subparts D, E and F (marking, labeling and placarding, respectively) of part 172 of this subchapter or § 172.604 of this subchapter (emergency response telephone number) for transportation by vessel or aircraft. For transportation by

aircraft, all other applicable requirements of this subchapter, including shipping papers, emergency response information, notification of pilot-in-command, general packaging requirements, and the requirements specified in § 173.27 must be met. For transportation by vessel, additional exceptions are specified in § 176.905 of this subchapter.

51. Section 173.221 is revised to read as follows:

§ 173.221 Polymeric beads, expandable and Plastic molding compound.

(a) Non-bulk shipments of Polymeric beads (or granules), expandable, evolving flammable vapor and Plastic molding compound *in dough, sheet or extruded rope form, evolving flammable vapor* must be packed in: wooden (4C1 or 4C2), plywood (4D), fiberboard (4G), reconstituted wood (4F) boxes, plywood drums (1D) or fiber drums (1G) with sealed inner plastic liners; in vapor tight metal or plastic drums (1A1, 1A2, 1B1, 1B2, 1H1 or 1H2); or packed in non-specification packagings when transported in dedicated vehicles or freight containers. The packagings need not conform to the requirements for package testing in part 178 of this subchapter, but must be capable of containing any evolving gases from the contents during normal conditions of transportation.

(b) Bulk shipments of Polymeric beads (or granules), expandable, evolving flammable vapor or Plastic molding compounds *in dough, sheet or extruded rope, evolving flammable vapor* may be packed in non-specification bulk packagings. Except for transportation by highway and rail, bulk packagings must be capable of containing any gases evolving from the contents during normal conditions of transportation.

52. Section 173.222 is revised to read as follows:

§ 173.222 Dangerous goods in equipment, machinery or apparatus.

Hazardous materials in machinery or apparatus are excepted from the specification packaging requirements of this subchapter when packaged according to this section. Hazardous materials in machinery or apparatus must be packaged in strong outer packagings, unless the receptacles containing the hazardous materials are afforded adequate protection by the construction of the machinery or apparatus. Each package must conform to the packaging requirements of subpart B of this part, except for the requirements in §§ 173.24(a)(1) and 173.27(e), and the following requirements:

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

(b) The nature of the containment must be as follows—

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

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

(3) Receptacles for gases, their contents and filling densities must

conform to the applicable requirements of this subchapter, unless otherwise approved by the Associate Administrator for Hazardous Materials Safety.

(c) For transportation by aircraft, the total net quantity of hazardous materials contained in one item of equipment, machinery or apparatus must not exceed the following:

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

(2) 0.5 L (0.3 gallons) in the case of liquids;

(3) 0.5 kg (1.1 pounds) in the case of Division 2.2 gases; and

(4) A total quantity of not more than the aggregate of that permitted in paragraphs (c)(1) through (c)(3) of this section, for each category of material in the package, when a package contains hazardous materials in two or more of the categories in paragraphs (c)(1) through (c)(3) of this section and is offered for transportation by aircraft.

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

§ 173.224 [Amended]

53. In § 173.224, in the introductory text of paragraph (c)(3), the word "product" is added immediately before the word "evaluation".

54. In § 173.225, in paragraph (b), in the Organic Peroxides Table, entries are removed or added in the appropriate alphabetical order, to read as follows:

§ 173.225 Packaging requirements and other provisions for organic peroxides.

* * * * *

(b) * * *

ORGANIC PEROXIDE TABLE

Technical name	ID number	Concentration (mass %)	Diluent Mass (%)			Water (mass %)	Packing method	Temperature (°C)		Note
			A	B	I			Control	Emergency	
(1)	(2)	(3)	(4a)	(4b)	(4c)	(5)	(6)	(7a)	(7b)	(8)
[REMOVE:]										
Dibenzoyl peroxide [as a paste]	Exempt	≤50	≥14			≥18	Exempt			
[ADD:]										
Isopropyl sec-butyl peroxydicarbonate [and] Di-sec-butyl peroxydi-carbonate [and] Di-isopropyl peroxydicarbonate.	UN3115	≤32 + ≤15-18 + ≤12-15	≥38				OP7	-20	-10	



DEFENSE LOGISTICS AGENCY

DEFENSE DISTRIBUTION CENTER
2001 MISSION DRIVE
NEW CUMBERLAND, PA 17070-5000

Gorsky
§ 173.220
99-0082

MAR 24 1999

IN REPLY
REFER TO

DDC-TO

MEMORANDUM FOR DEPARTMENT OF TRANSPORTATION
ATTN: EDWARD MAZZULLO

SUBJECT: Use of 49 CFR Exception for Motor Vehicle Shipments

Request clarification and guidance on shipment of motor vehicles containing fire extinguishers or other hazardous materials. In these cases, the motor vehicle is the cargo being shipped. The mode of shipment may be rail or highway.

A suggestion was made that when shipping these vehicles, the fire extinguisher should be mounted in the normal location in the vehicle. It was stated that this would allow the use of 49 CFR exception 173.220 (G)(1) and preclude the requirement for vehicle or fire extinguisher certification. Furthermore, it was suggested that other hazardous materials that may occur in any vehicles be handled the same way.

Our research indicates that fire extinguishers must be shipped as an inner packaging per 173.309 (a)(2). The vehicle itself cannot be considered an outer packaging. In addition, fire extinguishers must be described in the shipping papers. Other hazardous materials would be subject to the requirements of 49 CFR, subchapter C as stated in 173.220 (f).

We find that exception 173.220 (G)(1) does not provide relief from the two above requirements. Does any other 49 CFR exception apply?

We are awaiting your reply. We will issue policy guidance based on DOT requirements. In the interim, we have notified all Defense Depots that using exception 49 CFR 173.220 (G)(1) does not allow the inclusion of fire extinguishers or other hazardous materials in vehicle shipments.

POCs for this matter are Susan Earle, DSN 977-8353 (com 717-770-8353), email searle @ddc.dla.mil and Linda McCarthy, DSN 977-8238 (com 717-770-8238), email lmccarthy@ddc.dla.mil.


JAMES O'RIMEL, SR.
Chief, Distribution Operations