



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

DEC 13 2005

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

Reference No.: 05-0168

Mr. Charles R. Schulz
HAZMAT Team Leader
Department of the Army
Defense Ammunition Center
1 C Tree Road
McAlester, OK 74501

Dear Mr. Schulz:

This is in response to your July 8, 2005 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to placarding requirements. You present a number of scenarios with your interpretation of placarding requirements. All scenarios are non-bulk shipments. You ask that we comment on the accuracy of your interpretation. Your specific scenarios and interpretations, and our responses are as follows:

Scenario #1: 4,000 kg of Class 3 (Flammable) material, 200 kg of Class 8 (Corrosive) material, and 200 kg of Class 4.1 (Flammable Solid) material are loaded onto one truck. There are no subsidiary hazardous classes.

Schulz interpretation: You suggest that the "FLAMMABLE" placard is required.

PHMSA comment: As specified in § 172.504(c)(1), "FLAMMABLE," "CORROSIVE," and "FLAMMABLE SOLID" placards are required because the aggregate gross weight (4,400 kg) of the Class 3, Class 8, and Class 4.1 hazardous materials exceeds 454 kg (1,001 lb). However, as provided in § 172.504(b), the "DANGEROUS" placard may be substituted for the "CORROSIVE" and "FLAMMABLE SOLID" placards.

Scenario #2: 4,000 kg of Class 3 (Flammable) material, 400 kg of Class 8 (Corrosive) material, and 200 kg of Class 4.1 (Flammable Solid) material are loaded onto one truck. There are no subsidiary hazardous classes.

Schulz interpretation: You suggest that the "FLAMMABLE" and "DANGEROUS" placards are required.



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PHMSA comment: The “FLAMMABLE,” “CORROSIVE,” and “FLAMMABLE SOLID” placards are required because the aggregate gross weight (4,600 kg) of the Class 3, Class 8, and Class 4.1 hazardous materials exceeds 454 kg (1,001 lb). The placarding exceptions provided in § 172.504(c) may not be used because the Class 3 material exceeds 454 kg (1,001 lb). However, as provided in § 172.504(b), the “DANGEROUS” placard may be substituted for the “CORROSIVE” and “FLAMMABLE SOLID” placards.

Scenario #3: 175 kg of Class 8 (Corrosive) material with a subsidiary hazard class of Class 6.1 (Poison Inhalation Hazard) Zone B, 300 kg of Class 3 (Flammable) material, and 25 kg of Class 5.1 (Oxidizer) material are loaded onto one truck. The Class 3 and Class 5.1 hazardous materials do not have subsidiary hazards.

Schulz interpretation: You suggest that the “CORROSIVE” and “POISON INHALATION HAZARD” placards are required.

PHMSA comment: The “CORROSIVE” and “POISON INHALATION HAZARD” placards are required. The weight of Table 2 materials in non-bulk packagings which are required, under the provisions of § 172.505(a), to be placarded with “POISON INHALATION HAZARD” or “POISON GAS” placards are not included in determining the aggregate gross weight of hazardous materials covered by Table 2, for purposes of eligibility for the exception in § 172.504(c). Therefore, as provided in § 172.504(c), the “FLAMMABLE” and “OXIDIZER” placards are not required because the aggregate gross weight of the Class 3 and Class 5.1 materials is less than 454 kg. However, as provided in § 172.504(b), the “DANGEROUS” placard may be substituted for the “CORROSIVE” placard.

Scenario #4: 1,250 kg of Class 3 (Flammable) material with a subsidiary hazard class of Class 6.1 (Poison Inhalation Hazard) Zone B hazardous material, 275 kg of Class 2.1 (Flammable Gas) material, and 200 kg of Class 4.1 (Flammable Solid) material, are loaded onto one truck. The Class 2.1 and Class 4.1 hazardous materials do not have subsidiary hazards.

Schulz interpretation: You suggest that the “FLAMMABLE,” “POISON INHALATION HAZARD,” and “DANGEROUS” placards are required.

PHMSA comment: The “FLAMMABLE,” “POISON INHALATION HAZARD,” “FLAMMABLE GAS,” and “FLAMMABLE SOLID” placards are required. However, as provided in § 172.504(b), the

“DANGEROUS” placard may be substituted for the “FLAMMABLE GAS” and “FLAMMABLE SOLID” placards.

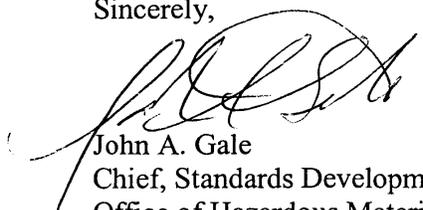
Scenario #5: 650 kg of Class 8 (Corrosive) material with a subsidiary hazard class of Class 6.1 (Poison Inhalation Hazard) Zone B material, 675 kg of Class 3 (Flammable) material, and 875 kg of Class 4.1 (Flammable Solid) material, are loaded onto one truck. The Class 3 and Class 4.1 hazardous materials do not have subsidiary hazards.

Schulz interpretation: You suggest that the “DANGEROUS” and “POISON INHALATION HAZARD” placards are required.

PHMSA comment: The “CORROSIVE,” “POISON INHALATION HAZARD,” “FLAMMABLE,” and “FLAMMABLE SOLID” placards are required. However, as provided in § 172.504(b), the “DANGEROUS” placard may be substituted for the “CORROSIVE,” “FLAMMABLE,” and “FLAMMABLE SOLID” placards.

I trust this satisfies your inquiry.

Sincerely,



John A. Gale
Chief, Standards Development
Office of Hazardous Materials Standards

DEPARTMENT OF THE ARMY
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§172.504
Placarding
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8 July 2005

MEMORANDUM FOR: Office of Hazardous Materials Safety

SUBJECT: Interpretation of Placarding Requirements

1. Reference: 49 Code of Federal Regulations, 1 October 2004.
2. Request interpretation of Section 172.504 of reference in regards the following placarding scenarios. All are non-bulk shipments.
 - a. 4000 kg of Class 3 material; along with 200 kg of Class 8 and 200 kg of Class 4.1 material, are loaded onto one truck. None of these materials have subsidiary hazards .
 - i. Required placarding: Flammable (Class 3) placards.
 - ii. Rationale: The Class 3 material, though it is listed in 172.504(e) Table 2, has an aggregate gross weight of 4000 kg and therefore the exceptions listed in 172.504(b) and 172.504(c) do not apply. The Class 8 and Class 4.1 materials are listed in Table 2 and have an aggregate combined gross weight of 400 kg, which is less than 454 kg and therefore 172.504(c) applies. The weight of the Class 3 material does not have to be taken into account when determining the applicability of 172.504(c) for the Class 8 and Class 4.1 material because the Class 3 material has already been placarded for.
 - b. 4000 kg of Class 3 material; along with 400 kg of Class 8 and 300 kg of Class 4.1 material, are loaded onto one truck. None of these materials have subsidiary hazards .
 - i. Required placarding: Flammable (Class 3) and Dangerous placards..
 - ii. Rationale: The Class 3 material, though it is listed in 172.504(e) Table 2, has an aggregate gross weight of 4000 kg and therefore the exceptions listed in 172.504(b) and 172.504(c) do not apply. The Class 8 and Class 4.1 materials are listed in Table 2 and have an aggregate combined gross weight of 700 kg, which is more than 454 kg and therefore 172.504(c) does not apply. The Class 8 and Class 4.1 materials are listed in Table 2 and are each less than 1000 kg and therefore 172.504(b) applies.

- c. 175 kg of a Class 8 material which has a subsidiary hazard of Class 6.1 with an Inhalation Hazard Zone B; along with 300 kg of Class 3 and 25 kg of Class 5.1 material, are loaded onto one truck. The Class 3 and Class 5.1 materials do not have subsidiary hazards .
- i. Required placarding: Corrosive (Class 8) and Poison Inhalation Hazard (Class 6.1) placards.
 - ii. Rationale: The Class 8 material, though it is listed in 172.504(e) Table 2 and has an aggregate gross weight less than 454 kg, is subject to 172.505(a), due to the presence of the Poison Inhalation Hazard subsidiary, and therefore 172.504(c) does not apply. The Class 3 and Class 5.1 materials are listed in Table 2 and have an aggregate combined gross weight of 325 kg, which is less than 454 kg and therefore 172.504(c) applies. The weight of the Class 8 material does not have to be taken into account when determining the applicability of 172.504(c) for the Class 3 and Class 5.1 materials because the Class 8 material has already been placarded for.
- d. 1250 kg of a Class 3 material which has a subsidiary hazard of Class 6.1 with an Inhalation Hazard Zone B; along with 275 kg of Class 2.1 and 200 kg of Class 4.1 material, are loaded onto one truck. The Class 2.1 and Class 4.1 materials do not have subsidiary hazards .
- i. Required placarding: Flammable (Class 3); Poison Inhalation Hazard (Class 6.1); and Dangerous placards.
 - ii. Rationale: The Class 2.1 and Class 4.1 materials are listed in Table 2 and each has less than an aggregate gross weight of 1000 kg; so therefore 172.504(b) applies. 172.504(c) does not apply for the Class 2.1 and Class 4.1 materials because they have a combined aggregate gross weight of 475 kg, which is over the 454 kg limit. The Class 3 material, though it is listed in 172.504(e) Table 2, has an aggregate gross weight over 1000 kg, and therefore cannot be covered by the Dangerous placard and must be placarded for. In addition 172.505(a) requires its subsidiary to placarded for also.
- e. 650 kg of a Class 8 material which has a subsidiary hazard of Class 6.1 with an Inhalation Hazard Zone B; along with 675 kg of Class 3 and 875 kg of Class 4.1 material, are loaded onto one truck. The Class 3 and Class 4.1 materials do not have subsidiary hazards .
- i. Required placarding: Dangerous and Poison Inhalation Hazard (Class 6.1).
 - ii. Rationale: The Class 8, Class 3, and the Class 4.1 materials are listed in Table 2 and each have less than an aggregate gross weight of 1000 kg; so therefore 172.504(b) applies. The Class 8 material also has a subsidiary hazard which is required to be placarded for by 172.505(a).

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