



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

JUN 6 2003

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

Mr. Kelly W. Crooks
Acting Chief, Safety/Rad Waste Office
HQ US Army Joint Munitions Command
1 Rock Island Arsenal
Rock Island, IL 61299-6000

Ref. No: 03-0126

Dear Mr. Crooks:

This is in response to your May 7, 2003 letter requesting clarification of the requirements in the Hazardous Materials Regulations (HMR; 49 CFR Parts 172-180) regarding the loading, transport and incidental storage of a 1.4G (explosive) material, other than fireworks, with other Class 1 (explosive) material, other than detonators, in compatibility groups C, D, E, or S by rail, vessel and highway. Your questions are paraphrased and answered below.

Q1. Can a 1.4G (explosive) material be transported by rail with other Class 1 (explosive) material in compatibility groups C, D, E, or S?

A1. The answer is yes, with the following limitations:

- When the § 172.101 table or § 172.402 requires a package to bear a subsidiary hazard label, segregation appropriate to the subsidiary hazard must be applied when that segregation is more restrictive than that required by the primary hazard. However, hazardous materials of the same class may be loaded and transported together without regard to segregation required by any secondary hazard if the materials are not capable of reacting dangerously with each other and causing combustion or dangerous evolution of heat, evolution of flammable, poisonous, or asphyxiant gases, or formation of corrosive or unstable materials. (§ 174.81(e)(6)).
- Explosive articles in compatibility group G, other than fireworks and those requiring special stowage, may be loaded and transported with articles of compatibility groups C, D, E, provided no explosive substances are carried in the same rail car. (§ 174.81(g)(3)(vi)).

Q2. Can a 1.4G (explosive) material be transported by vessel with other Class 1 (explosive) material in compatibility groups C, D, E, or S?

A2. The answer is yes, with the following limitations:

- Explosive articles in compatibility group G, other than fireworks and those requiring special stowage, may be stowed with articles of compatibility groups C, D, and E, provided no explosive substances are carried in the same compartment, portable magazine or transport unit. (Table 176.144(a), Note 1)



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174.81

Q3. Can a 1.4G (explosive) material be transported by public highway with other Class 1 (explosive) material in compatibility groups C, D, E, or S?

A3. The answer is yes, with the following limitations:

- When the § 172.101 table or § 172.402 of this subchapter requires a package to bear a subsidiary hazard label, segregation appropriate to the subsidiary hazard must be applied when that segregation is more restrictive than that required by the primary hazard. However, hazardous materials of the same class may be loaded and transported together without regard to segregation required by any secondary hazard if the materials are not capable of reacting dangerously with each other and causing combustion or dangerous evolution of heat, evolution of flammable, poisonous, or asphyxiant gases, or formation of corrosive or unstable materials. (§ 177.848(e)(6))
- Explosive articles in compatibility group G, other than fireworks and those requiring special handling, may be loaded, transported and stored with other explosive articles of compatibility groups C, D, and E, provided that explosive substances (such as those not contained in articles) are not carried in the same vehicle. (§ 177.848(g)(3)(vi))
- See § 177.835(g) pertaining to detonators. (§ 177.848(g)(iv))

Q4. Is it the shipper's responsibility to determine whether a risk of "dangerous reaction" between materials exist, and is the shipper required to document that decision in writing?

A4. The answer is yes. Section 173.24(e)(4) states ... "hazardous materials may not be packed or mixed together in the same outer packaging with other hazardous or non-hazardous materials if such materials are capable of reacting dangerously with each other and causing: combustion or dangerous evolution of heat; evolution of flammable, poisonous, or asphyxiant gases; or formation of unstable or corrosive materials." Also see § 173.21(e). It is the shipper's responsibility to determine whether any of these dangerous reactions can occur. Such determinations are not required to be verified by or submitted to this Office.

I hope this satisfies your request.

Sincerely,



Hattie L. Mitchell, Chief
Regulatory Review and Reinvention
Office of Hazardous Materials Standards



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY JOINT MUNITIONS COMMAND
1 ROCK ISLAND ARSENAL
ROCK ISLAND, IL 61299-6000

May 7, 2003

Safety/Rad Waste Office

Betas
§ 174.81
§ 176.83
§ 177.848
Segregation
03-0126

Office of Hazardous Materials Standards, Research and Special
Programs Administration, Attention: DHM-10
US Department of Transportation
400 7th Street SW
Washington, DC 20590-0001

Dear Sir/Madam:

Reference 49 Code of Federal Regulation, parts 100 to 185:

- a. Part 174 - Carriage by Rail - 174.81(e)(6) and 174.81(f), (g), and (h)
- b. Part 176 - Carriage by Vessel - 176.83(a)(8) and (10)
- c. Part 177 - Carriage by Public Highway - 177.848(e)(6), (f), and (g)

This is a formal followup to electronic mail exchange earlier in April via your website. Our intent is to distribute your response to appropriate Department of Defense shippers and transportation regulating agencies, to help prevent future disputes.

Request interpretation on the practice of shipping hazard class/division and compatibility group 1.4G material (except fireworks) with other class 1 material in compatibility groups C, D, E, or S (except detonators.) This practice was questioned when the material also had a subsidiary hazard(s) present.

Our understanding of references is that they do allow storage and transport of class 1 material, compatibility codes C, D, E, G, and S, with or without subsidiary hazards, under the following conditions:

↘ a. Code G material is not 'fireworks'; i.e., the term 'fireworks' is not part of the proper shipping name, and does not require special handling;

↘ b. Code S material is not a detonator; i.e., the term 'detonators' is not part of the proper shipping name; and

↘ c. Substances do not pose a risk of 'dangerous reaction' as defined in reference.

↘ Please advise if our understanding of the above references is correct. We would also appreciate your interpretation whether it is the shipper's responsibility to determine if a risk of 'dangerous reaction' between materials exists, and if we must document that decision in writing and accompany affected shipments.

Thank you in advance for your assistance.

We are providing a copy of this letter to:

a. US Army Technical Center for Explosives Safety,
Attention: SOSAS-ESL, 1 C Tree Road, McAlester, Oklahoma
74501-9053

b. US Army Military Traffic Management Command, Attention:
MTOF-DF-I (LTCDR Pugh), Ft. Eustis, Virginia 23604

c. US Army Materiel Command, Attention: AMCPE-SF, 5001
Eisenhower Avenue, Alexandria, Virginia 22333-0001

The point of contact for this request is Mr. Tim Gallagher,
Safety/Rad Waste Office (AMSJM-SF), telephone (309) 782-2971,
electronic mail JMC-OFC-SF@osc.army.mil.

Sincerely,



Kelly W. Crooks
Acting Chief, Safety/
Rad Waste Office