



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

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

JUL -9 2004

Mr. George Kerchner  
Manager-Environmental & Transportation  
Consulting  
The CapAnalysis Group, LLC  
1299 Pennsylvania Ave., NW  
Washington, DC 2004-2402

Ref. No.: 04-0150

Dear Mr. Kerchner:

This responds to your e-mail and our subsequent meeting with you and representatives from the battery industry concerning the transportation of "Battery fluid, acid, 8, UN 2796, PG II" with dry (new, empty) batteries under the Hazardous Materials Regulations (HMR; 49 CFR parts 171-180).

Your questions are paraphrased and answered below:

Q1. May "Battery fluid, acid, 8, UN 2796, PG II" be offered as a limited quantity when packed in a combination packaging conforming to the PG II performance requirements and further overpacked (including shrink-wrapped) with a dry battery in accordance with § 173.25?

A1. The answer is yes, provided the limited quantity provisions in § 173.154 are met. Section 173.154(b)(i) limits the net capacity in each inner packaging to a maximum of 1 L (0.3 gal) for Class 8, PG II liquids. The limited quantity package may be overpacked, including shrink wrapped, with the dry battery in accordance with the provisions in § 173.25. Limited quantity shipments are excepted from specification packaging when packaged in a combination packaging according to §173.154.

A limited quantity which conforms to the provisions of §173.154(b) and is a "consumer commodity" as defined in §171.8 may be renamed "Consumer commodity" and reclassified as "ORM-D". The Consumer commodity package containing the battery fluid, acid may be overpacked with the dry battery in accordance with § 173.25. Under the limited quantity and the consumer commodity provisions, the battery fluid and the dry battery may not be packaged together in the same outer combination packaging.

Should the battery fluid and the dry battery be packaged together in the same outer combination package, the provisions of § 173.159 (g) or (h) apply. See Special provision N6.

Q2. Regarding the sample brown 4G fiberboard box imprinted with the Class 8 (corrosive) label, is the label in conformance with the HMR?



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173.159  
173.154

A2. The answer is no. The background of a Class 8 label is required to be white in the top half and black in the lower half. "White" as defined by the American College Dictionary is an achromatic color of maximum lightness; as new snow. Further alterations to the symbol, such as the speckles shown on the hand depicted on the label, are not authorized. See § 172.407(b)(1).

Q3. Is it permissible to transport "Batteries, wet, filled with acid, 8, UN 2794, PG III" and "Battery fluid, acid, 8, UN 2796, PG II" on the same transport vehicle under the provisions in § 173.159(e)?

A3. The answer is no. Electric storage batteries containing electrolyte or corrosive battery fluid are excepted from the HMR when transported in accordance with the provisions specified in § 173.159(e). The condition specified in § 173.159(e)(1) states that no other hazardous materials may be transported on the same vehicle. Therefore, with the exception of the batteries, no hazardous materials, including corrosive battery fluid, may be transported on the vehicle.

Q4. Section 178.601(g) describes selective testing of packagings that differ only in minor respects from the tested packaging. If we have a tested combination package, can we reduce the size or the number of the inner packagings in accordance with Variation 1 without further testing? Similarly, if we have a tested combination package, can we reduce the size of the external packaging in accordance with Variation 4 without further testing?

A4. The answer to both questions is yes. As provided by § 178.601(g)(1), variations are permitted in the inner and outer packagings without further testing, provided an equivalent level of performance is maintained. Variation 1 may be applied to allow the substitution of smaller inner containers of similar design and Variation 4 to allow a reduction in the external dimensions of a tested outer container. The new package cannot exceed the gross weight (combined weight of package and contents) of the originally tested package design.

I trust this satisfies your request. If we can be of further assistance, please do not hesitate to contact me.

Sincerely,



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

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Shipping Battery fluid, acid (UN 2796)  
(202) 383-7163 2004#2402

Combin  
§173.159  
§173.154  
Batteries  
04-015

1. Shipping as Class 8 haz mat: Confirm UN markings for combination packaging and single packaging pursuant to 49 CFR 173.202

**Examples:**

- i. Combination - UN/4G/Y10/S/02/USA/+BK0023
  - ii. Single - UN/6HA2/Y1.7/15/02/USA/+BK0023
2. Question: Does Battery fluid, acid qualify for both limited quantity and ORM-D exceptions? (See interpretation letter.)
    - i. Limited Quantities: 49 CFR 173.154 (b)(1)
      - No labeling, UN certified packaging, and placard
    - ii. ORM-D: 49 CFR 173.154(c) and 173.156
      - No labeling, UN certified packaging, shipping papers, and placard
  3. Question: Are the marking requirements for limited quantities and ORM-D noted on the attached correct?

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Scenario No. 2

**Shipping Battery fluid, acid w/ Dry (Storage) Battery (UN 2796)**

**Pursuant to 173.159 (g)(3) or 173.159(h) and Special Provision N6**

Based on interpretation letters issued by RSPA to Yuasa (see attached), RSPA asserts UN certified packaging is required when shipping Battery fluid, acid with storage batteries and cannot be shipped as limited quantity. This of course implies that it can only be shipped as Class 8 hazardous material.

1. Question: Can Battery fluid, acid be packaged in UN certified packaging, dry battery packaged in non-UN certified packaging, and then the entire contents placed in overpack (including shrink-wrap) pursuant to 49 CFR 173.25? The overpack would comply with all Class 8 marking and labeling requirements.

or

2. Question: Must Battery fluid, acid and storage battery be placed in UN certified outer packaging that would include the use of combination packaging?

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Scenario No. 3

**Shipping Battery fluid, acid w/ Dry (Storage) Battery  
as Limited Quantities or ORM-D**

1. Question: Can Battery fluid, acid be packaged in UN-certified packaging, battery packaged in non UN-certified packaging, and then the entire contents placed in overpack and shipped as Limited Quantity or ORM-D? The overpack would comply with marking requirement in 49 CFR 173.25: That is, "Inner packages comply with all prescribed specifications."

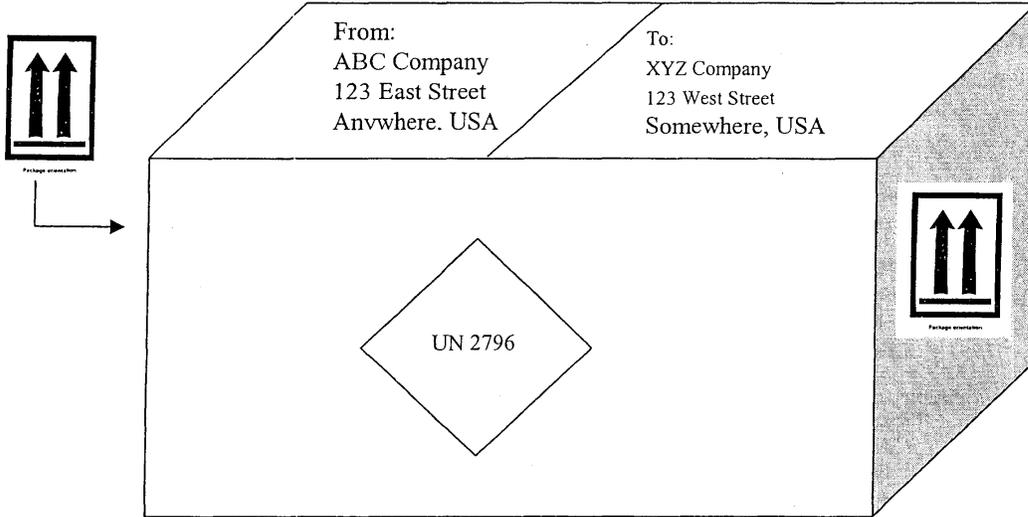
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**Miscellaneous Question**

1. Can *Battery fluid, acid* be shipped in the U.S. using a smaller label than normally required under the HMR, and labeled pursuant to the exception in 49 CFR § 172.407(f)?

49 CFR § 172.407(f) contains exceptions to the labeling requirements provided the shipper complies with the specification requirements in the UN Recommendations. (See Part 5, Chapter 5.2 of the UN Recommendations.)

**LIMITED QUANTITY**



**ORM-D MATERIALS**

