



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

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

NOV 16 2004

Mr. Robert N. Steinwurtzel
Swidler Berlin Shereff Friedman, LLP
3000 K Street, NW
Suite 300
Washington, DC 20007-5116

Reference No.: 04-0175

Dear Mr. Steinwurtzel:

This responds to your letter concerning the classification and applicability of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) to materials similar to battery litharge and red lead which are used in processing battery plates.

You state that battery litharge consists of approximately 73-81% lead monoxide, 19-27% free lead, and trace amounts of various elements. The material is in powder form with a median particle size of 2.2 micrometers, and based on a screen analysis, 99% of the particles are smaller than 45 micrometers. The chemical composition of 25% red lead is approximately 21-29% lead tetraoxide, 69-76% monoxide, a maximum of 2.5% free lead, and trace amounts of other elements. The material is in powder form, median particle size is 3.0 micrometers, and based on screen analysis 99.5% of particles are smaller than 45 micrometers. Your letter also indicates that the amount of lead in one package meets or exceeds the Reportable quantity for "Lead" in Appendix A of § 172.102.

Your letter includes a number of statements concerning the applicability of the HMR to shipments of lead and environmentally hazardous substances. Your understanding of the HMR, as outlined in your letter, is correct. With regard to item #1, the reference to "40 C.F.R. § 172.101, App. A, . . ." on page 2, should read "49 C.F.R., App. A, . . ."

Your specific questions are paraphrased and answered as follows:

Q1. Are products with a chemical composition similar to battery litharge and 25% red lead subject to the HMR?

A1. Under § 173.22, it is a shipper's responsibility to properly class, package, mark, and label a hazardous material for transportation in commerce. This Office generally does not perform this function. If the materials in question (1) are similar in chemical composition to the battery litharge and 25% Red lead, (2) do not meet the definition of any other hazard class definition in Part 173, including hazardous waste or marine pollutant, and (3) meet or exceed the reportable quantity for "Lead" in Appendix A of the § 172.101 Hazardous Materials Table (HMT) in one package, they are subject to the HMR.



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Q2. How should these hazardous substances be described on the shipping paper?

A2. "Lead" is not listed as a proper shipping name in the HMT; therefore, a shipping name that best describes the material must be selected from the generic or n.o.s. descriptions corresponding to the specific hazard class, packing group, hazard zone and subsidiary hazard, if any, for the material. Generic shipping name entries that have the symbol "G" in column 1 of the HMT require the technical name of the hazardous material in parentheses in association with the basic description. Hazardous substances meeting only the Class 9 definition may be described as "RQ, Environmentally hazardous substances, solid, n.o.s., 9, UN 3077, PG III (lead)."

Q3. What marking and placarding requirements apply when these materials are transported in a bulk packaging?

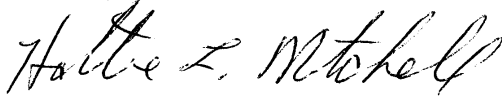
A3. As required by § 172.302, a bulk packaging containing a hazardous material must be marked with the identification number of the hazardous material; a packaging with a capacity of 1,000 gallons or more must be marked on each side and each end; a packaging with a capacity of less than 1,000 gallons must be marked on two opposing sides. The identification number must be displayed on orange panels, on placards, or on a white square-on-point display configuration. For domestic transportation, a Class 9 placard is not required (see § 172.504(f)(9)).

Q4. Are carriers transporting hazardous materials in a bulk packaging subject to the registration requirements in 49 CFR 107.601?

A4. The answer is yes. A carrier who transports a hazardous material in a bulk packaging with a capacity greater than 3,500 gallons or 468 cubic feet is subject to the registration requirements.

I trust this satisfies your inquiry.

Sincerely,



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

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July 21, 2004

Mr. Edward T. Mazzullo
Director, Office of Hazardous Materials Standards
U.S. DOT/RSPA (DHM-10)
400 7th Street, S.W.
Washington, D.C. 20590-0001

Re: Battery Litharge and Red Lead

Dear Mr. Mazzullo:

I am writing for clarification to determine the classification of products known as battery litharge and 25% Red Lead, and the shipping requirements of those products under the Hazardous Materials Regulations, 49 C.F.R. Parts 171-180. Battery litharge and 25% Red Lead are products used in processing battery plates. They are in powder form and contain free lead metal finer than 100 micron particle size. The specifications outlined below are typical of these types of products when used for the manufacture of automotive batteries.

The chemical composition of the battery litharge is approximately 73-81% lead monoxide, 19-27% free lead, and trace amounts of various elements. Battery litharge has a typical value of 26% free lead. The material is in powder form with a median particle size of 2.2 micrometers. A screen analysis (325 mesh) indicates that 99% is finer than 45 micrometers.

The chemical composition of 25% Red Lead is approximately 21 to 29% lead tetraoxide, 69% to 76% lead monoxide, a maximum of 2.5% free lead, and trace amounts of other elements. The material is in powder form with a median particle size of 3.0 micrometers. A screen analysis (325 mesh) indicates that 99.5% is finer than 45 micrometers.

My understanding of the Hazardous Materials Regulations, 49 C.F.R. Parts 171-180, is as follows:

- 1) Lead is listed as a hazardous substance under 49 C.F.R. § 172.101, Table 1 to Appendix A. The reportable quantity for lead is 10 pounds, but only applies to

those pieces of metal that have a diameter smaller than 100 micrometers (0.004 inches). 40 C.F.R. § 172.101, App. A, Table 1, n.¢. A single package of material containing a reportable quantity of lead would meet the definition of a hazardous substance, which falls under the definition of hazardous material. 49 C.F.R. § 171.8.

- 2) Neither lead monoxide (PbO) nor lead tetraoxide (Pb₃O₄) are listed as hazardous substances or as a hazardous material under the Hazardous Material Regulations. Although these are lead compounds, it is our understanding that they do not meet the definition of "Division 6.1" (poisonous material) under 49 C.F.R. § 173.132 and, thus, do not fall under "lead compounds, soluble, n.o.s." See Letter from Hattie L. Mitchell, Chief, Regulatory Review and Reinvention, Office of Hazardous Materials Standards, U.S. DOT, to Jeffrey T. Miller, Lead Industries Ass'n, Inc., Mar. 17, 2000, p. 1.
- 3) Lead is not listed in the Hazardous Material Table under 49 C.F.R. § 172.101, but is listed as a hazardous substance. For a solid product containing lead, a hazardous substance that is not otherwise specified, the proper shipping name would be "Environmentally hazardous substance, solid, n.o.s." For domestic transport of hazardous substances that are not hazardous wastes, however, "Other regulated substances, liquid or solid, n.o.s.," as appropriate, may be used as the shipping description. 49 C.F.R. § 172.102(c)(1).
- 4) The class listed for "Environmentally hazardous substances, solid, n.o.s." is Class 9, which is the hazard class for a hazardous material that meets no other hazard class, including any material that meets the definition of a hazardous substance. 49 C.F.R. § 173.140. The identification number and packing group is UN3077 and PG III, respectively. For such generic names, the technical name of the hazardous material must be included in parenthesis, e.g., (lead). 49 C.F.R. §§ 172.101(b)(4), 172.203(c)(1).
- 5) Any package of 40 pounds or more of battery litharge, as described above, would meet the definition of hazardous substance (e.g., 40 lbs x 99% x 26% = 10.3 lbs), and thus be subject to the HMR.
- 6) Any package of 400 pounds or more of 25% Red Lead, as described above, would meet the definition of hazardous substance (e.g., 400 lbs x 99.5% x 2.5% = 10 lb) and thus be subject to the HMR.
- 7) General marking requirements for bulk packages require the identification number on each side and each end of the packaging of 1,000 gallons or more, or on two opposing sides if less than 1,000 gallons. 49 C.F.R. § 172.302. Although for domestic transportation a Class 9 placard is not required, subpart D of the HMR require identification numbers be on placards, orange panels, or white-square-on-point display configuration that meet the requirements of 49 C.F.R. § 172.332 for either non-bulk or bulk-packaging. 49 C.F.R. §§ 172.331, 172.332,

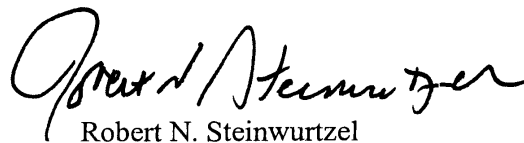
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172.504(f)(9). A Class 9 label is also required for non-bulk packages and bulk packagings (other than a cargo tank, portable tank or tank car with a volumetric capacity of less than 640 cubic feet), unless the bulk package is placarded in accordance with subpart F. 49 C.F.R. §§ 172.400(a), 172.446. For bulk packaging, then, an orange panel with the proper shipping identification is sufficient to meet the marking, labeling and placarding requirements of subparts D, E and F of the HMR.

Please confirm that our understanding of the HMR as outlined above is accurate. In particular, please verify that (a) products with a similar chemical composition as the battery litharge and 25% Red Lead described above must meet the HMR for packages containing at least 40 pounds and 400 pounds of the product, respectively, and (b) these products when packaged and transported in bulk trucks in these amounts or more are properly labeled with an orange panel and identified as "RQ, Environmentally hazardous substances, solid, n.o.s., Class 9, UN3077, PG III (lead)" to meet the requirements of the HMR. Finally, please confirm that transporters of these products in bulk packaging having a capacity of more than 13.24 cubic meters must be registered with DOT pursuant to 49 C.F.R. § 107.601(a)(4).

I appreciate your prompt attention to this matter. Thank you in advance for your time and assistance.

Sincerely,



Robert N. Steinwurtzel