TWO MINUTE TRAINING

TO: *CH2M HILL PLATEAU REMEDIATION COMPANY*

FROM: *PAUL W. MARTIN, RCRA Subject Matter Expert*
CHPRC Environmental Protection, Hanford, WA

SUBJECT: *HAZARDOUS DEBRIS AND NON-RADIOACTIVE LEAD-ACID BATTERIES*

DATE: *MARCH 19, 2020*

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TWO MINUTE TRAINING

SUBJECT: Hazardous Debris and Non-Radioactive Lead-Acid Batteries

Q: In last week's Two Minute Training (2MT) we learned that if spent mercury wet cell batteries are still considered intact containers, the batteries must be managed per the land disposal restriction (LDR) treatment standards at 40 CFR 268.40 for RMERC (retorting or roasting of mercury for recovery). However, if the mercury wet cell batteries are not considered intact containers, i.e., ruptured or no longer retain at least 75% of their original volume, then the batteries can be managed according to the alternative treatment standards for debris at 40 CFR 268.45. Concerning lead-acid batteries, if a customer has damaged, spent (nonradioactive) lead-acid batteries, e.g., burned and melted during a building fire and no longer intact containers, can the lead-acid batteries be managed as debris per 40 CFR 268.45? Or, are the lead-acid batteries still subject to the 40 CFR 268.40, Table, "Treatment Standards for Hazardous Waste" since the lead-acid batteries have an LDR-specific treatment standard of RLEAD (recovery of lead)?

A: 40 CFR 268.2, "Definitions applicable to this part" (LDR), paragraph (g) basically defines "debris" as a solid waste material >60 mm (2 in.) that is a manufactured object, plant or animal matter; or natural geologic material.

"However, the following materials are not debris: any material for which a specific treatment standard is provided in Subpart D, Part 268, namely lead acid batteries, cadmium batteries, and radioactive lead solids…"

So, in general, spent lead-acid batteries cannot be managed as debris since they have a specific treatment standard in 40 CFR 268.40, which for nonwastewaters is RLEAD. Concerning the burned and melted batteries that are no longer intact containers, their status as intact or non-intact containers does not alter the prohibition that spent lead-acid batteries cannot be managed as debris. As clarified in an EPA Guidance Memo dated November 10, 1993, (RO 13638) EPA stated:

"Such batteries (non-intact containers) *would still not be subject to the treatment standards for debris because there is a more specific treatment standard for lead acid or cadmium batteries".*

Therefore, lead-acid batteries (and cadmium batteries) cannot be managed as debris, e.g., macroencapsulated, even if the batteries are no longer intact containers. Since the lead-acid batteries have a specific treatment standard in 40 CFR 268.40, the definition of debris prohibits management as debris under 40 CFR 268.45.

Note that the EPA guidance referred to Footnote 10 in the August 18, 1992, Federal Register on page 37222. EPA has since incorporated the specifics of the footnote into 40 CFR 268.2(g) with the wording, the following materials are not debris, "…namely lead acid batteries, cadmium batteries, and radioactive lead solids…" Also, note that the EPA guidance was specific to mercury batteries as intact containers but the wording on lead-acid batteries is applicable to any lead-acid batteries subject to LDR.

SUMMARY:

- Wastes eligible for the alternative treatment standards of debris are defined at 40 CFR 268.2(g).
- The definition of debris specifically states that lead-acid batteries are not debris since they have a specific treatment standard in 40 CFR 268.40.
- Even if the lead-acid battery is a non-intact container, which is generally debris, spent lead-acid batteries cannot be managed under the alternative treatment standards of debris at 40 CFR 268.45 and must meet the specific treatment standard in 40 CFR 268.40.

Excerpts from 40 CFR 268.2, 268.40 and the November 10, 1993, EPA memo are attached to the e-mail. If you have any questions, contact me at Paul_W_Martin@rl.gov or at (509) 376-6620.

TWO MINUTE TRAINING - ATTACHMENT

SUBJECT: Hazardous Debris and Non-Radioactive Lead-Acid Batteries

40 CFR 268.40 Applicability of treatment standards / Treatment Standards for Hazardous Wastes

Regulated hazardous constituent				Wastewaters	Nonwastewaters
Waste Code	Waste Description and treatment/Regulatory Subcategory	Common Name	CAS#	Concentration in mg/L; or Technology Code	Concentration in mg/kg unless noted as "mg/L TCLP" or Technology Code
D008	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for lead based on the toxicity characteristic leaching procedure (TCLP) in SW846.	Lead	7439-92-1	0.69 and meet §268.48 standards	0.75 mg/L TCLP and meet §268.48 standards
	Lead Acid Batteries Subcategory (Note: This standard only applies to lead acid batteries that are identified as RCRA hazardous wastes and that are not excluded elsewhere from regulation under the land disposal restrictions of 40 CFR 268 or exempted under other EPA regulations (see 40 CFR 266.80). This subcategory consists of nonwastewaters only.)			NA	RLEAD *[Thermal recovery of lead in secondary lead smelters.]*

40 CFR §268.2 Definitions applicable in this part

When used in this part the following terms have the meanings given below:

(g) *Debris* means solid material exceeding a 60 mm particle size that is intended for disposal and that is: A manufactured object; or plant or animal matter; or natural geologic material. However, the following materials are not debris: any material for which a specific treatment standard is provided in Subpart D, Part 268, namely lead acid batteries, cadmium batteries, and radioactive lead solids; process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by §268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

SUBJECT: Hazardous Debris and Non-Radioactive Lead-acid Batteries

REGULATORY STATUS OF BATTERY CARCASSES 9441.1993(23)

United States Environmental Protection Agency
Washington, D.C. 20460
Office of Solid Waste and Emergency Response

Mr. Christopher L. Freed
Manager - Environmental Regulation s
Chemical Waste Management, Inc.
3001 Butterfield Road
Oak Brook, Illinois 60521

November 10, 1993

Dear Mr. Freed:

Thank you for your letter of April 30, 1993 summarizing your meeting of April 29, 1993 with Richard Kinch of my staff. Upon further investigation of this issue since the receipt of your letter, however, it is clear that battery carcasses do not qualify as debris. They are considered to be containers, as explained below.

As discussed in detail in the preamble to the final rule establishing alternate treatment standards for hazardous debris, intact containers are not debris, and hence are not subject to the treatment standards for debris. 57 FR 37225 (August 18, 1992). In addition, in previous rulemakings EPA has stated that battery casings designed to hold free liquids for use other than storage are containers. I refer you specifically to 40 CFR 264.314(d)(3); 265.314(c)(3); and 55 FR 22637/2 (June 1, 1990). Thus, such intact battery casings are not debris.

In your letter, you state that EPA suggested, elsewhere in the preamble to the final debris rule, that batteries could be debris unless they are subject to a specific treatment standard. I believe you have based this statement on the discussion at 57 FR 37222 and footnote 10, which gives "lead acid or cadmium batteries" as an example of a debris subject to a specific treatment standard. Unfortunately, you then draw the inference that because mercury batteries are not mentioned in this footnote, they are therefore debris.

This is an incorrect conclusion. First, please note that the actual regulatory language does not contain the example of the lead acid battery. 57 FR at 37270. More important, as explained above, intact containers are never classified as debris. Consequently, the example in footnote 10 refers only to lead acid or cadmium batteries that are not intact. Such batteries would still not be subject to the treatment standards for debris because there is a more specific treatment standard for lead acid or cadmium batteries. The footnote does not, however, in any way vitiate the general principle that intact containers are not debris and that batteries are types of containers. I hope this response, based on a thorough examination of the issue of concern, is helpful. If you need further information, please contact Richard Kinch, Chief of the Waste Treatment Branch in our Waste Management Division at (703) 308-8434.

Sincerely,

Bruce R. Weddle, Acting Director
Office of Solid Waste

RO 13638