

| <u>SUBJECT</u>   |        | <u>DATE</u>  |
|--|--------|--------------|
| 1056. Hazardous Waste Tanks and the Less than 90-Day Accumulation Time Limit                     | ENCORE | APR 23, 2015 |
| 1057. Decharacterized RCRA Waste - Manifesting and LDR Reporting                                 | ENCORE | APR 30, 2015 |
| 1058. Decharacterized Hazardous Waste Listed Solely for Non-Toxic Characteristics                | ENCORE | MAY 7, 2015  |
| 1059. Decharacterized Wastes, <90-Day Accumulation Time Limits and LDR Storage Prohibition       | ENCORE | MAY 14, 2015 |
| 1060. Decharacterized Wastes and the LDR Dilution Prohibition                                    | ENCORE | MAY 21, 2015 |
| 1061. Hazardous Debris Macroencapsulation and Size Reduction                                     | ENCORE | MAY 28, 2015 |
| 1062. Universal Waste Lamps and Prohibition on Crushing  |        | JUN 4, 2015  |
| 1063. F003 Listed Hazardous Waste and the 10% Rule   | ENCORE | JUN 11, 2015 |
| 1064. F001 - F005 Listed Hazardous Waste and the 10% Rule  | ENCORE | JUN 18, 2015 |
| 1065. Macroencapsulation of Hazardous Debris and Presence of Free Liquids                        | ENCORE | JUN 25, 2015 |
| 1066. DOT Shipping of Damaged, Defective or Recalled Lithium Batteries                           |        | JUL 1, 2015  |
| 1067. Used Oil Eligibility for Animal and Vegetable Oils   | ENCORE | JUL 9, 2015  |
| 1068. Used Oil Eligibility for Petroleum Oils Mixed with Animal or Vegetable Oils                |        | JUL 16, 2015 |
| 1069. Conditioned Exclusion for Listed Hazardous Waste Debris Treated via Extraction/Destruction | ENCORE | JUL 23, 2015 |
| 1070. Conditioned Exclusion for Characteristic Debris Treated via Immobilization                 |        | JUL 30, 2015 |
| 1071. RCRA Personnel Training and Classroom Training vs. Online Training                         |        | AUG 6, 2015  |
| 1072. PCB Decontamination Standards with No Decontamination Performed                            |        | AUG 13, 2015 |
| 1073. PCB Manifest Exceptions a.k.a. When is a PCB Manifest Not Required                         | ENCORE | AUG 19, 2015 |
| 1074. PCB Manifest Relief a.k.a. When is a PCB Manifest Not Required – The Sequel                |        | AUG 27, 2015 |
| 1075. Hazardous Debris and Radioactively Contaminated Cadmium Batteries                          | ENCORE | SEP 3, 2015  |
| 1076. Hazardous Debris and Radioactively Contaminated Lead Acid Batteries                        | ENCORE | SEP 10, 2015 |
| 1077. Mercury Wet Cell Batteries - Debris or Not Debris?   | ENCORE | SEP 17, 2015 |

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## TWO MINUTE TRAINING

**TO:** CH2M HILL PLATEAU REMEDIATION COMPANY

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

**SUBJECT:** MERCURY WET CELL BATTERIES - DEBRIS OR NOT DEBRIS?

**DATE:** SEPTEMBER 17, 2015

| <u>CHPRC Projects</u>   | <u>CH PRC - Env. Protection</u>   | <u>MSA</u>  | <u>Hanford Laboratories</u>  | <u>Other Hanford Contractors</u>  | <u>Other Hanford Contractors</u>   |
|---|---|---|--|---|--|
| Richard Austin<br>Tania Bates<br>Ty Blackford<br>Bob Cathel<br>Rene Catlow<br>Richard Clinton<br>Larry Cole<br>John Dent<br>Brian Dixon<br>Eric Erpenbeck<br>Stuart Hildreth<br>Mike Jennings<br>Stephanie Johansen<br>Jeanne Kisielnicki<br>Melvin Lakes<br>Jim McGrogan<br>Stuart Mortensen<br>Anthony Nagel<br>Dean Nester<br>Dave Richards<br>Phil Sheely<br>Connie Simiele<br>Roni Swan<br>Michael Waters<br>Jeff Widney | Brett Barnes<br>Ron Brunke<br>Bill Cox<br>Laura Cusack<br>Lorna Dittmer<br>Rick Engelmann<br>Ted Hopkins<br>Jim Leary<br>Dale McKenney<br>Jon McKibben<br>Rick Oldham<br>Linda Petersen<br>Fred Ruck<br>Jennie Seaver<br>Ray Swenson<br>Wayne Toebe<br>Lee Tuott<br>Daniel Turlington<br>Dave Watson<br>Joel Williams | Jerry Cammann<br>Jeff Ehlis<br>Garin Erickson<br>Lori Fritz<br>Panfilo Gonzales Jr.<br>Dashia Huff<br>Mark Kamberg<br>Edwin Lamm<br>Candice Marple<br>Saul Martinez<br>Jon Perry<br>Thomas Pysto<br>Christina Robison<br>Don Rokkan<br>Lana Strickling<br>Lou Upton | (TBD)<br><br><u>DOE RL, ORP, WIPP</u><br><br>Mary Beth Burandt<br>Cliff Clark<br>Mike Collins<br>Tony McKarns<br>Ellen Mattlin<br>Greg Sinton<br>Scott Stubblebine | Bill Bachmann<br>Dean Baker<br>Scott Baker<br>Lucinda Borneman<br>Paul Crane<br>Tina Crane<br>Greta Davis<br>Jeff DeLine<br>Ron Del Mar<br>John Dorian<br>Mark Ellefson<br>Darrin Faulk<br>Joe Fritts<br>Tom Gilmore<br>Rob Gregory<br>Gene Grohs<br>James Hamilton<br>Andy Hobbs<br>Ryan Johnson<br>Dan Kimball<br>Megan Lerchen<br>Richard Lipinski<br>Charles (Mike) Lowery<br>Michael Madison<br>Terri Mars<br>Cary Martin<br>Grant McCalmant<br>Steve Metzger<br>Tony Miskho<br>Matt Mills<br>Tom Moon<br>Chuck Mulkey<br>Mandy Pascual<br>Kirk Peterson<br>Jean Quigley | Dan Saueressig<br>Merrie Schilperoort<br>Joelle Moss<br>Glen Triner<br>Greg Varljen<br>Julie Waddoups<br>Kyle Webster<br>Jeff Westcott<br>Ted Wooley |

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## TWO MINUTE TRAINING

**SUBJECT:** Mercury Wet Cell Batteries - Debris or Not Debris?

**Q:** A customer has accumulated batteries for disposal that contain mercury liquids. The customer would like to manage the mercury wet cell batteries (D009 high mercury/inorganic) as hazardous debris under the alternate land disposal restrictions (LDR) treatment standards at [40 CFR 268.45](#), e.g., macroencapsulation. If not managed as debris, the batteries would require treatment via the LDR treatment standards at [40 CFR 268.40](#) of RMERC (retorting or roasting of mercury for recovery). The customer's concern is whether or not the mercury wet cell batteries are considered "intact containers" which would make the batteries ineligible for the debris alternate treatment standard. Are batteries that contain free liquids considered debris or are these batteries considered "intact containers" and therefore not considered debris?

**A:** Debris as defined at [40 CFR 268.2\(g\)](#) includes manufactured objects over 60 mm in size. Materials with specific treatment standards, such as cadmium batteries or lead acid batteries, process residuals, and intact, unruptured, containers that retain at least 75% of their original volume are not debris.

The customer's mercury wet cell batteries are manufactured objects over 60 mm in size; have no specific treatment standard, e.g., no specific treatment standard for "Mercury containing batteries"; and consist of intact casings. Per an [EPA Guidance Memo dated November 10, 1993](#), it states:

*"... 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) [[now 264.314\(c\)\(3\)](#)]; 265.314(c)(3) [[now 265.314\(b\)\(2\)](#)]; and [55 FR 22637 / 2 \(6/1/1990\)](#) [see 2<sup>nd</sup> column, 2<sup>nd</sup> paragraph]. Thus, such intact battery casings are not debris."*

Therefore, intact mercury wet cell batteries are considered intact containers and cannot meet the debris definition. The batteries would require treatment via the specified technology of RMERC and would not be eligible for the alternate treatment standard of debris. If the mercury wet cell batteries were not intact containers, due to being ruptured or crushed, those batteries could meet the definition of debris and would be eligible for the alternate treatment standards for debris.

### SUMMARY:

- Intact containers are not considered debris.
- Mercury wet cell batteries designed to hold free liquids are considered intact containers.
- Mercury wet cell batteries that are intact containers cannot meet the definition of debris.

Excerpts from 40 CFR 268.40, 268.2(g) and the November 10, 1993 EPA letter are attached to the e-mail. If you have any questions, please contact me at "Paul\_W\_Martin@rl.gov" or at (509) 376-6620.

**FROM:** Paul W. Martin

**DATE:** 9/17/15

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**TWO MINUTE TRAINING - ATTACHMENT**

**SUBJECT:** Mercury Wet Cell Batteries - Debris or Not Debris?

**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 |
| D009                            | Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain greater than or equal to 260 mg/kg total mercury that are inorganic, including incinerator residues and residues from RMERC. (High Mercury-Inorganic Subcategory) | Mercury     | 7439-97-6 | NA  | RMERC   |

**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.

**FROM:** Paul W. Martin

**DATE:** 9/17/15

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**TWO MINUTE TRAINING - ATTACHMENT**

**SUBJECT:** Mercury Wet Cell Batteries - Debris or Not Debris?

**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  
Chemical Waste Management, Inc.  
Manager - Environmental Regulations  
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

**FROM:** Paul W. Martin

**DATE:** 9/17/15

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