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1321.	Decharacterized RCRA Waste - Manifesting and LDR Reporting	ENCORE MAR 7, 2019
1322.	Decharacterized Hazardous Waste Listed Solely for Non-Toxic Characteristics	ENCORE MAR 14, 2019
1323.	Decharacterized Wastes, ≤90-Day Accumulation Time Limits and LDR Storage Prohibition	ENCORE MAR 21, 2019
1324.	Decharacterized Wastes and the LDR Dilution Prohibition	ENCORE MAR 28, 2019
1325.	PCB Decontamination Standard with No Decontamination Performed	ENCORE APR 4, 2019
1326.	PCB Manifest Relief a.k.a., When is a PCB Manifest Not Required?	ENCORE APR 11, 2019
1327.	PCB Manifest Relief a.k.a., When is a PCB Manifest Not Required? – The Sequel	ENCORE APR 18, 2019
1328.	PCB Concentrations and Micrograms per Centimeters Squared (µg/cm ²)	ENCORE APR 25, 2019
1329.	Operating Record vs. Operating Log	ENCORE MAY 2, 2019
1330.	Operating Records Not Referenced in the “Operating Record” Regulations	ENCORE MAY 9, 2019
1331.	Washington State Used Oil and Mixtures with Other Materials	ENCORE MAY 16, 2019
1332.	Used Oil Filter Regulation – The Feds vs. Washington State	ENCORE MAY 23, 2019
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1341.	RCRA EPA Identification Numbers – Site Specifics	ENCORE JUL 25, 2019
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1343.	Paint Wastes and the Applicability of the F001-F005 Listings to Ingredients	ENCORE AUG 8, 2019
1344.	F Listings and Ingredients in Commercial Chemical Product Formulations	ENCORE AUG 15, 2019
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1360.	Universal Waste Lamps and Prohibition on Crushing	ENCORE DEC 5, 2019

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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: UNIVERSAL WASTE LAMPS AND PROHIBITION ON CRUSHING

DATE: DECEMBER 5, 2019

<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 Tania Bates Rene Catlow Richard Clinton Larry Cole Laura Cusack John Dent Lorna Dittmer Stuart Hildreth Mike Jennings Stephanie Johansen Sasa Kosjerina Melvin Lakes Richard Lipinski Stuart Mortensen Dave Richards Phil Sheely Connie Simiele Jeff Westcott	Jeff Bramson Bob Bullock Frank Carleo Bill Cox Jeanne Elkins Ryan Fischer Jonathan Fullmer Ted Hopkins Barry Lawrence Jim Leary Diane Leist Mitch Marrott Stewart McMahand Brian Mitcheltree Anthony Nagel Linda Petersen Fred Ruck Sean Sexton Dave Shea Ray Swenson Kat Thompson Wayne Toebe Eric Trotta Daniel Turlington Dave Watson	Brett Barnes Michael Carlson Mike Demiter Kip George Jerry Cammann Jeff Ehlis Garin Erickson Panfilo Gonzalez Jr. Dashia Huff Mark Kamberg Jon McKibben Saul Martinez Matt Mills Carly Nelson Michelle Oates Eric Pennala Jon Perry Christina Robison Christian Seavoy David Shaw John Skoglie Lana Strickling Greg Sullivan	(TBD) <u>DOE RL, ORP, WIPP</u> Mary Beth Burandt Duane Carter Al Farabee Tony McKarns	Bill Bachmann Dean Baker Scott Baker Lucinda Borneman Paul Crane Tina Crane Ron Del Mar John Dorian Mark Ellefson Darrin Faulk Rob Gregory James Hamilton Andy Hobbs Ryan Johnson Megan Lerchen Mike Lowery Michael Madison Terri Mars Cary Martin Grant McCalmant Steve Metzger Tony Miskho Tom Moon Chuck Mulkey Kirk Peterson	Dan Saueressig Joelle Moss Glen Triner Greg Varljen Julie Waddoups Jay Warwick Ted Wooley

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TWO MINUTE TRAINING

SUBJECT: Universal Waste Lamps and Prohibition on Crushing

Q: A universal waste (UW) handler (large or small) has accidentally broken lamp bulbs destined for recycling at a UW receiving facility. The UW receiving facility reminds the UW handler that unintentionally broken bulbs are recyclable, but intentionally broken bulbs, e.g., from a bulb crusher, are prohibited. The UW handler reviews the UW regulations and finds no specific wording prohibiting intentionally broken bulbs as UW but does find wording that a UW handler must minimize lamp breakage, which does not sound like an absolute prohibition on broken lamps. So where in the UW regulations does it state that intentional crushing of UW bulbs is prohibited?

A: The UW handler is correct that according to [WAC 173-303-573 \[40 CFR 273\]](#), “Standards for Universal Waste” and paragraph (20)(c)(ii) [[40 CFR 273.33\(d\)](#)], a UW handler must minimize lamp breakage. Paragraph (20)(c)(i) also states that a UW handler must cleanup and containerize UW lamps that show evidence of “leakage, spillage, or damage”. The UW handler is also correct that explicit wording prohibiting crushing UW bulbs does not appear in WAC 173-303-573.

However, there is a prohibition at WAC 173-303-573(18)(b) [[40 CFR 273.31\(b\)](#)], that states:

*“A large quantity handler of universal waste is:
Prohibited from diluting or treating universal waste, except by responding to releases as provided in subsection (24) of this section; or by managing specific wastes as provided in subsection (20) of this section.”*

Per [WAC 173-303-040 \[40 CFR 260.10\]](#), “Definitions”, treatment can include physical processing of dangerous waste to make such wastes reduced in volume. Therefore, crushing of bulbs would be prohibited treatment. As clarified in the [July 6, 1999, Federal Register](#) on page 36477, section B.1.c. states:

“In general, as explained in the preamble to the universal waste rule (60 FR 25519), the Agency does not believe that universal waste handlers, who are not required to comply with the full Subtitle C management standards, should treat universal wastes. Therefore, under today’s rule, both small and large quantity handlers of universal waste lamps are prohibited from diluting or treating universal waste lamps except by responding to releases as provided in §§ 273.17 and 273.37. Prohibitions for small quantity handlers are found in § 273.11 and for large quantity handlers in § 273.31. The prohibition against treatment includes a prohibition of crushing of lamps.”

Since treatment of UW is prohibited, and crushing is treatment, crushing of UW bulbs is prohibited.

SUMMARY:

- UW handlers are prohibited from treating universal waste.
- Crushing lamps meets the definition of treatment since the crushed bulbs would be reduced in volume.
- Since treatment of UW is prohibited, and crushing of bulbs is treatment, crushing of UW bulbs is prohibited.

Excerpts from WAC 173-303-040, WAC 173-303-573 and the July 6, 1999, Federal Register are attached to the e-mail. If you have any questions, contact me at [Paul W Martin@rl.gov](mailto:Paul_W_Martin@rl.gov) or at (509) 376-6620.

FROM: Paul W. Martin

DATE: 12/5/19

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TWO MINUTE TRAINING – ATTACHMENT

SUBJECT: Universal Waste Lamps and Prohibition on Crushing

WAC 173-303-040 Definitions.

When used in this chapter, the following terms have the meanings given below.

"Large quantity handler of universal waste" means a universal waste handler (as defined in this section) who accumulates 11,000 pounds or more total of universal waste (batteries, mercury-containing equipment, and lamps calculated collectively) or who accumulates more than 2,200 pounds of lamps at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which 11,000 pounds or more total of universal waste and/or 2,200 pounds of lamps is accumulated.

"Treatment" means the physical, chemical, or biological processing of dangerous waste to make such wastes nondangerous or less dangerous, safer for transport, amenable for energy or material resource recovery, amenable for storage, or reduced in volume, with the exception of compacting, repackaging, and sorting as allowed under WAC 173-303-400(2) and 173-303-600(3).

WAC 173-303-573 Standards for universal waste management.

(18) Prohibitions.

A large quantity handler of universal waste is:

- (a) Prohibited from disposing of universal waste; and
- (b) Prohibited from diluting or treating universal waste, except by responding to releases as provided in subsection (24) of this section; or by managing specific wastes as provided in subsection (20) of this section.

(20) Waste management.

(c) Universal waste lamps. A large quantity handler of universal waste must manage universal waste lamps in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

- (i) A large quantity handler of universal waste must immediately clean up and place in a container any universal waste lamps that show evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The container must be closed, structurally sound, compatible with the contents of the lamps, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions;
- (ii) A large quantity handler of universal waste must minimize lamp breakage by accumulating lamps in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. The containers and packages must remain closed and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions;

TWO MINUTE TRAINING – ATTACHMENT

SUBJECT: Universal Waste Lamps and Prohibition on Crushing

Federal Register / Vol. 64, No. 128 / Tuesday, July 6, 1999 / Rules and Regulations 36477

B. Requirements for Handlers of Universal Waste Lamps

1. Prohibition on Treatment

a. Summary of Proposed Provision.

The Agency requested comments on the same prohibitions for generators and consolidation points that were proposed in the February 11, 1993 universal waste proposal. The Agency had proposed that generators of hazardous waste lamps and consolidation points managing hazardous waste lamps be prohibited from diluting or disposing of the lamps and from treating them except in response to releases.

The Agency requested comments on management practices for lamps, the risks posed by these practices, and appropriate technical controls to minimize these risks which would not inhibit collection and proper management. The Agency requested comment on whether requirements should be included in the final rule to minimize mercury emissions during storage and transport of the lamps.

The definition of treatment under RCRA (40 CFR 260.10) includes any method, technique or process designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from, or render such waste non-hazardous or less hazardous, safer to transport, store or dispose of, amenable for recovery, or storage, or reduced in volume. The crushing of spent mercury-containing lamps clearly falls within this definition. The Agency therefore requested comment on whether generators or consolidation points should be allowed to crush lamps intentionally to minimize volume for storage or shipment and which, if any, standards should be imposed to protect against mercury releases during crushing or the subsequent management of crushed lamps.

b. Summary of Comments Received.

Several commenters stated that the Agency should maintain its proposed prohibition on waste treatment, including lamp crushing. These commenters said that lamp crushers are a significant source of mercury emissions and that many lamp recyclers prefer to receive whole lamps. Other commenters stated that generators should be allowed to separate, consolidate, and crush their own lamps. Many commenters supported allowing crushing if it were safely performed, and some commenters stated that crushing is necessary to reduce storage and transportation costs. Information submitted to the Agency on drum top crushing systems for lamps indicates that there is a wide range of air emissions of mercury from these units, depending on the type of controls, and that in some units emissions of mercury exceed the OSHA limit of 0.05 mg/m³.

TWO MINUTE TRAINING – ATTACHMENT

SUBJECT: Universal Waste Lamps and Prohibition on Crushing

c. Agency's Response to Comments and Summary of Promulgated Standards.

The Agency is adopting for universal waste lamps the prohibitions in the final universal waste rule promulgated on May 11, 1995. In general, as explained in the preamble to the universal waste rule (60 FR 25519), the Agency does not believe that universal waste handlers, who are not required to comply with the full Subtitle C management standards, should treat universal wastes. Therefore, under today's rule, both small and large quantity handlers of universal waste lamps are prohibited from diluting or treating universal waste lamps except by responding to releases as provided in §§ 273.17 and 273.37. Prohibitions for small quantity handlers are found in § 273.11 and for large quantity handlers in § 273.31. The prohibition against treatment includes a prohibition of crushing of lamps. EPA is particularly concerned that uncontrolled crushing of universal waste lamps in containers meeting only the general performance standards of the universal waste rule would not sufficiently protect human health and the environment. As stated earlier, the prevention of mercury emissions during collection and transport is one of the principal reasons that the Agency selected the universal waste approach. Allowing uncontrolled crushing would be inconsistent with this goal.

The Agency is aware that a number of states have already added spent lamps to their universal waste programs. Available information indicates that some of these state programs prohibit crushing of spent lamps, but that at least some state programs may allow crushing under regulatory requirements designed to control emissions of hazardous constituents, particularly mercury. The Agency believes that some state programs may include standards for controlling emissions from mercury containing lamps during crushing that could be equivalent, per RCRA Section 3006, to the federal prohibition.

Therefore, EPA will consider authorization of state programs that include provisions for controlling treatment or crushing of universal waste lamps, where the state program application includes a demonstration of equivalency to the federal prohibition. Factors the Agency would expect such an application to address include the effectiveness of technical requirements in controlling emissions of hazardous constituents, the level of interaction of regulated entities with the regulatory agency to ensure compliance with control requirements, and other factors demonstrating that the state regulatory program would be equivalent to the federal treatment prohibition.