



Environmental Health, Safety, and Risk Management

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USED FLUORESCENT LAMP MANAGEMENT INFORMATION

Background:

On June 28, 1999, the EPA announced that spent mercury containing fluorescent lamps were included in the “universal waste final rule.” This Final Rule, (59 FR 38288) pertains to the management of spent mercury containing lamps including fluorescent, high-pressure sodium, neon, HID (high intensity discharge), mercury vapor, and metal halide lamps. Other universal wastes include spent lead-acid batteries, mercury thermostats, and certain types of pesticides.

The final rule defines four types of universal waste handlers (generators):

1. **Small quantity handlers** (SQHUW’s); 5000 kg or less of total universal waste handled at one time. Notification to EPA is not required, shipments are not required to be manifested, no record retention requirement.
2. **Large quantity handlers** (LQHUW’s); greater than 5000 kg of total universal waste at one time. Must notify EPA of universal waste activity, obtain an EPA ID number (if they don’t already have one) and retain off-site shipment records for 3 years. This can be a logbook, invoice, manifest, bill of lading or other shipping document.
3. **Transporters of universal waste** do not need to comply with the RCRA manifest requirements. Transporters can store universal wastes for ten days or less. If shipments are made to facilities with State Authorization and where lamps are already regulated as a hazardous waste, then a uniform hazardous waste manifest is required to document the shipment.
4. **Destination Facilities**; regulations found at 40 CFR 273.60.

The management requirements for SQHUW’s and LQHUW’s are found at 40 CFR 273.13 and include the following:

- a. Packaging requirements to prevent breakage of spent lamps during accumulation, storage and transport.

From the Final Rule, “Universal waste lamps must be stored in containers or packages that remain closed”, are structurally sound, adequate to prevent breakage, compatible

with contents of the lamps, and lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions. Examples of acceptable packaging could include placing lamps evenly spaced in double or triple-ply cardboard containers with closed lids.

- b. Labeling requirements indicate that each lamp or the container holding the lamps must be labeled with the words “Universal Waste Lamps”, or “Waste Lamps” or “Used Lamps.”
- c. Accumulation limitations indicate that handlers may accumulate universal waste for one year. Mark the date on the container to identify when the first lamp has been packaged.
- d. Regulations for release of universal waste are found at 273.17 and 273.37. For SQHUW’s immediately cleanup and containerize accidentally broken lamps; containerize in structurally sound, compatible packaging that prevents the leakage of mercury into the environment.
- e. Employee training requirements are found at 40 CFR 273.16 and 273.36.

40 CFR 273.16 and 273.36 indicates for both small and large quantity universal waste handlers that, “employees are thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies.”

- f. Land Disposal Restriction found at 40 CFR part 268.
- g. Prohibition on treatment; includes crushing operations.

Note: there is some discussion that may allow RCRA CESQG’s (conditionally exempt small quantity generators) to crush lamps at the point of generation. This would not apply to UAF.

Summary:

Tube crushing is prohibited under the prohibition on treatment portion of the final rule (page 24 of 50).

An attempt will be made to maintain a SQHUW universal waste handler status. Other universal wastes, i.e.; mercury switches/thermostats and pesticides are shipped quarterly with our hazardous waste shipments. Lead-acid batteries are routinely delivered for recycling to ABS Alaska Battery. The primary accumulation of universal waste is comprised of fluorescent tubes, which should not be allowed to exceed 5000 kg (11,000 lbs.). Shipments of packages, unbroken tubes will be scheduled to occur at least annually or so as to prevent the accumulation in excess to 5000 kg., (net weight of lamps without packaging).

Standard Procedures:

1. Segregate fluorescent tubes by length and style, i.e.; 4 ft., 8 ft., HID and U-shaped tubes.
2. Package all lamps to comply with requirements. Reuse packaging provided with the new replacement lamps until further notice. (Alternative packaging may be provided at a later date).
3. Document the type of lamp, the quantity and the packaging date on the labels provided.
4. Tape both ends, and all openings of the packaging shut.
5. Apply the label to the end of the package.
6. Contact EHSRM, Hazmat Section at 474-5617, 5758 to schedule the pick-up of used lamps.

Broken Lamp Procedures:

The Final Rule indicates that, “handlers must contain any universal waste lamps that show evidence of breakage, leakage or damage that could cause a release of mercury or other hazardous constituents to the environment.”

Utilize protective eyewear and puncture resistant gloves to pick-up and containerize all glass shards, end caps and phosphors resulting from unintentionally broken lamps.

Accidentally broken lamps must be placed in the sealable containers provide by EHSRM, Hazmat Section.