

## Best Practices for Managing Universal Waste

### Scope

The scope of this best practice consists of guidelines that a facility could use to develop their own detailed and specific procedures for managing universal waste. In the U.S., universal waste is a subset of hazardous waste. Universal waste regulations are streamlined and encourage recycling. The federal regulations for universal waste are found at 40 CFR 273 in addition to state regulations.

Note that this document includes the changes of the Generator Improvements Rule that EPA issued as a final rule on November 28, 2016. States must adopt the more stringent aspects of the federal rule but can choose whether to adopt aspects of the rule that are less stringent or equally stringent. This adoption must occur within one year, or two years if legislation was required. Both of these implementation dates have now passed, but not all states have adopted the rule. Click [here](#) to see which states have adopted the rule. If your state has not adopted the rule, best practice is to start complying with the more stringent parts of the revised rule. The reader must be familiar with both the federal and state regulations.

### Key Points

- In addition to federal regulations, be thoroughly familiar with your state's universal waste regulations which may add or remove the types of universal waste covered.
- Having designated secure (e.g. fenced) area(s) for accumulating universal waste makes management and inspection more effective and is a best practice.
- Although not required by the regulation, routine inspections of universal waste storage areas is a best practice.
- Intentional lamp crushing, typically done to save space, is not allowed under the federal universal waste regulations. Some states have been granted permission for this activity, so check with your state.
- If a facility chooses to use an aerosol can puncturer, ensure that there is a specific procedure in place and is followed. Best practice is to use a commercially available device that meets the regulatory requirements.
- Best practice is to audit the facilities to which universal waste is being sent. This is to ensure that this waste stream is being managed responsibly and in compliance with the applicable regulatory requirements.

### Background

Universal waste is a subset of hazardous waste. The universal waste regulations provide alternative regulations to make storage and transportation simpler and to encourage recycling. The term "universal" refers to the fact that these waste are commonly found across a wide



variety of facilities. The five Federal universal wastes are listed below. States may add or remove universal wastes from this list:

- Batteries as defined in 40 CFR 273.2.
- Certain pesticides as defined in 40 CFR 273.3
- Mercury-containing equipment as defined in 40 CFR 273.4. Note that lamps containing mercury are classified as lamps and not mercury-containing equipment under this regulation.
- Lamps (i.e. light bulbs) as specified in 40 CFR 273.5
- Aerosol cans as specified in 40 CFR 273.6.

Universal waste handlers are defined as small quantity handler and large quantity handler. A site is a small quantity handler of universal waste if it remains below 5,000 kg (11,000 lb.) at any one time. A site is a large quantity handler if it has 5,000 kg (11,000 lb.) or more at any one time. Counting of universal waste does not count toward a facility's hazardous waste generator status, e.g. Very Small Quantity Generator, Small Quantity Generator, or Large Quantity Generator.

#### Storage Requirements

Universal waste must be stored in areas that prevent releases to the environment. Although not a federal requirement, best practice is to have designated/consolidated universal waste storage area(s) that store all types of universal waste. Also, these areas should be secure (e.g. fenced) to prevent unauthorized material from being stored there. This facilitates routine inspections. Universal waste storage requirements are:

- Labeling as "Universal Waste <type>" or alternative language as specified in the regulation.
- Marking with a start accumulation date or other inventory tracking system. Marking with a start accumulation date is the simplest.
- Storing in a closed container (with the exception of batteries and mercury-containing equipment as discussed below) and by universal waste type.

#### Batteries

Batteries are not required to be stored in closed, labeled containers unless they are leaking. Best practice may be to require storage in containers anyway to have one consistent requirement for all universal wastes. A plastic pail with a lid for batteries works well. When it's not practical to store batteries in a labeled container, each battery must be labeled per the standard. If using a container, only the container must be labeled. If electrolyte is removed from a battery, the electrolyte must be characterized to determine its waste status and managed accordingly. Alkaline batteries are not a federal universal waste and are typically discarded in regular trash unless state regulations require otherwise.

#### Mercury-Containing Equipment

As with batteries, storing in a closed, labeled container is not required by federal regulations unless it is leaking. Best practice may be to require storage in containers anyway to have one



consistent requirement for all universal wastes. Otherwise, each piece of mercury-containing equipment must be labeled as opposed to simply labeling the container.

### Lamps

All universal waste lamps must be stored in a closed, labeled container for their protection. A cardboard box that prevents breakage is what's typically used. Note that while federal regulations allow facilities to store and manage broken lamps as universal waste, these regulations do not allow for the intentional crushing of lamps. EPA considers this activity hazardous waste treatment that requires a permit. Note that EPA has authorized some state programs to allow lamp crushing with certain precautions.

### Aerosol Cans

Aerosol cans that classify as RCRA empty can be disposed of as regular trash. Waste aerosol cans that are not RCRA empty must be accumulated in a closed, labeled container(s). There are then two options for disposition. They can be handled as universal waste or hazardous waste, depending on each state's regulations, or they can be punctured and drained with the cans being recycled as scrap metal.

If puncturing is the chosen option, federal regulations have specific requirements that must be followed. While the federal standard doesn't specifically require a commercial device for this purpose, best practice is to use a device designed for this purpose. The device is typically mounted onto a steel drum that meets the requirements for storage and has a device to trap vapor emissions. The drained liquid must be collected and its waste status characterized.

### Storage Time Limits

Handlers, whether large or small, may accumulate universal waste for up to one year. The facility must implement an inventory tracking system that identifies how long each waste type has been in storage. The easiest method is to mark the accumulation start date on each universal waste label and then schedule pickup(s) of all universal waste more frequently than annually.

### Off-Site Shipping

Shipping universal waste off-site does not require a hazardous waste manifest. However, if shipping a "state" regulated universal waste to another state that does not also regulate this material as universal waste, manifesting requirements of the destination state must be met. Although not required by regulation, best practice is to audit the facilities to their universal waste is being sent to ensure that this waste stream is being managed responsibly and in compliance with the applicable regulatory requirements.

### Extra Federal Requirements for Large Quantity Handlers

There are just two extra requirements for Large Quantity Handlers of universal waste:

- Receive (or already have) an EPA ID Number and inform EPA of the universal waste management activities status before accumulating 5,000 kg of universal waste on site.



- Tracking of universal waste shipments. Maintain a log of universal waste shipments received or shipped, and maintain these records for at least three years. This is a good idea for small quantity handlers, but not a requirement.

### Training

Small Quantity Handlers must be “informed” about proper handling and emergency procedures appropriate to the type(s) of universal waste handled at the facility. Large Quantity Handlers must be “thoroughly familiar” with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies. Practically speaking, there’s little to no difference in the training one would provide for small and large quantity handlers. A frequency isn’t specified for recurring training, but annual refresher training is best practice and could be part of broader environmental awareness or hazardous waste refresher training.

### Inspections

Although there are no federal requirements for inspection of universal waste, best practice is to include routine weekly inspections of these areas, including aerosol can puncturing devices.

Look for:

- Signage for the Universal Waste areas
- Proper labeling with start accumulation date and waste type
- Containers that are closed and in good condition
- Housekeeping
- Evidence of spillage/leakage
- Sufficient aisle space
- Include an inventory with each inspection
- Ensure no unauthorized materials or waste are being stored
- Aerosol can puncturing devices are in good condition and accumulation drum is labeled

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