

Understanding and Handling Universal Waste

Environmental Health, Safety, & Risk
Management

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INTRODUCTION

TOPIC:

The “Universal Waste Rule” is designed to encourage recycling and proper disposal of some common, widespread, hazardous wastes

RELEVANCE:

To familiarize you with the concept of “Universal Waste” and the specific regulatory requirements applicable to generators (SFASU)



WHAT IS UNIVERSAL WASTE?

EPA chose “universal” to describe the nature of certain widely dispersed hazardous waste.

- Frequently generated as a waste in a wide variety of non industrial settings
- Generated by a vast community (size of community poses implementation difficulties)
- Present in significant volumes in non-hazardous waste management systems

What is Universal Waste?

Continued...

- Category of hazardous waste that is exempt from hazardous waste requirements if specified handling and recycling practices are followed (40 CFR 273)
- Waste is shipped by approved universal waste handlers



Examples of Universal Waste - Federal

- Hazardous Waste Batteries

cadmium, lead-acid, lithium, mercury containing and button type batteries

- Hazardous Pesticides

- Hazardous Mercury Containing Thermostats

temperature control devices which contain a metallic mercury ampule attached to a bimetal sensing element. Also included is Mercury-Containing equipment.

- Hazardous Waste Lamps

Fluorescent Lamps

Universal Waste Rule - Overview

The universal waste rule streamlines the hazardous waste regulations by:

- reducing **barriers** to collection programs
- reducing **complexities**
- reducing **cost** of compliance

Universal Waste Rule - Goals

- Encourage environmentally **sound collection and recycling or treatment** of universal waste
- **Improve implementation** of the hazardous waste system
- **Ease regulatory burden**
- **Reduce the hazardous wastes** going to municipal landfills or municipal combustors

Definitions

Lamp, also referred to as “universal waste lamp” is defined as the bulb or tube portion of an electric lighting device.

Hazardous Waste Lamps: hazardous due to their mercury content, which include fluorescent lamps, high-intensity discharge (HID), neon, mercury vapor, high pressure sodium and metal halide lamps.

Definitions: Continued...

Universal Waste Handler

Anyone that generates, manages, receives, accumulates, or sends Universal Wastes to another Universal Waste handler or to a destination facility or to a foreign destination is a Universal Waste Handler.

Regulated Community

1. Small Quantity Handlers of Universal Waste (SQHUW) - < 5,000 Kilograms
2. Large Quantity Handlers of Universal Waste (LQHUW) - > 5,000 Kilograms
3. Transporters
4. Destination Facilities

Small Quantity Handlers of Universal Waste (SQHUW)

A Universal Waste Handler that handles less than 5,000 Kilograms (11,000 pounds) of total universal wastes (all batteries, pesticides, thermostats and lamps) calculated collectively on-site at any time.

Large Quantity Handler of Universal Waste (LQHUU)

A Universal Waste Handler that handles greater than 5,000 Kilograms (11,000 pounds) of total universal wastes (all batteries, pesticides, thermostats and lamps) calculated collectively on-site at any time.

Destination Facility

These are facilities that legitimately and legally can accept Universal Wastes from off-site so they may be treated, disposed or recycled in accordance with all regulatory requirements.

Universal Waste Transporter

Anyone that is engaged in the off-site transportation of universal waste by air, rail, highway or water.

Regulatory Summary

- The Universal Waste Rule was published in the Federal Register May 11, 1995 (60 FR 25492) and codified at 40 CFR 273
- The Mercury-Containing and Rechargeable Battery Management Act was signed on May 13, 1996 (PL 104-142)
- A technical correction was published in the Federal Register December 24, 1998 (63 FR 71225)
- Lamps were added as a new Federal universal waste July 6, 1999 (64 FR 36466)

State and Federal Rules

- States can implement their own version of Universal Waste Rule.
- TEXAS: 30 TAC 335.261 “Universal Waste Rule”—adopts 40 CFR 273 almost entirely.
- Paint and paint related waste is Universal Waste in Texas and must be labeled as “Universal Waste – Paint and Paint Related Waste”.
- Storage of MCE and lamps is per the federal rule

The State or Federal program may add new categories of universal wastes or be petitioned to add new categories of universal waste.



SQHUU & LQHUU

- Prohibited – Disposing of, diluting, or treating of universal waste.
- Always remember – Universal Waste is still hazardous waste and may not be disposed of in the garbage.
- Nothing but hazardous waste being managed separately under different set of regulations to ease regulatory burden on the generator.



WASTE MANAGEMENT

SQHUU & LQHUU Continued...

- Must manage universal waste in a way that prevents releases into the environment -specific standards apply to each type (§273.13 or §273.33)
- All containers have to be closed tightly at all times except when waste is actively added to the containers.
- Must contain any spill or releases (damaged battery or broken bulbs). Broken bulbs are treated as hazardous waste.
- Use secondary containment when necessary.

WASTE MANAGEMENT

Universal Waste Lamps

- Lamps must be placed in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps.
- It is common practice across SFA and recommended that the original box which the lamp was purchased in be used to store the waste lamp. Therefore, please ensure that you keep these containers.

WASTE MANAGEMENT

Universal Waste Lamps

- Containers and packages must remain closed unless adding or removing lamps and must lack evidence of leakage or damage that could cause leakage under reasonably foreseeable conditions.
- It is recommended that you do not tear the flaps off of the lamp containers and tape the flaps closed when lamps are not being added to the container

WASTE MANAGEMENT

Universal Waste Lamps

- Store lamps only in the designated Universal waste storage areas.
- Do not use closets or shelves as storage spaces – people tend to forget.
- Always mark the designated storage areas with appropriate markings as “Universal Waste Storage”

WASTE MANAGEMENT

Batteries

- Universal waste batteries that are in good condition and do not show evidence of leakage spillage or damage are not required to be stored in a container. Damaged may be treated as hazardous waste.
- It is recommended that the smaller batteries be stored in a larger container for labeling purposes.

WASTE MANAGEMENT

Batteries

- Batteries ≥ 9 Volts – Always tape the terminals
- Alkaline batteries (Ex: AA, AAA, C, etc.) are non-hazardous and may be thrown in regular trash but strongly advised to store in a container for proper recycling.

LABELING / MARKING


SQHUU & LQHUU Continued...

- Must label or mark universal waste or containers of universal waste to identify universal waste type (§273.14 or §273.34)
 - Universal Waste – Bulbs
 - Universal Waste – Batteries
 - Universal Waste – Used Oil
 - Universal Waste – Ballasts
- Always Date the container – First day of waste
- PCB Ballasts, Broken bulbs & Leaking Batteries – Use hazardous waste label

LABELING / MARKING

Batteries

- If you choose to label each battery individually, then you must label each with the words Universal Waste-Batteries and with the date it became a waste – Lead Acid Batteries.
- If you choose to place each battery in a larger container, then as soon as the first battery is placed in the container the container must be labeled with the words Universal Waste-Batteries and must be dated.



ACCUMULATION TIME LIMIT

SQH UW & LQH UW Continued...

ONE YEAR (365 Days)

- No exemptions unless for proper recovery treatment or disposal
- Must demonstrate the length of time that the universal waste has been accumulated from the date it becomes waste or is received.

ACCUMULATION TIME LIMIT

SQHUU & LQHUU Continued...

- Maintain an inventory system or log book on site that identifies the date and quantities of universal waste being accumulated became a waste or was received (log book is easy)
- Approximate number of boxes (each box size should have a standard capacity of number of bulbs or drum with standard weight capacity) or number of drums or number of batteries.

Response to Releases

SQHUU & LQHUU Continued...

- Must immediately contain releases and handle residues appropriately and make hazardous waste determination on material resulting from release (§273.15 or §273.35)
- Contact Safety department in the event of a major spill and for all hazardous waste determinations.
- Broken bulbs are hazardous and always use secondary containment for doubtful batteries.

Response to Releases: Continued...


Emergency Procedures for Lamps

- If a lamp breaks or shows evidence of leakage, spillage, or damage you must:
 - Immediately clean up the broken lamp and place the pieces or damaged lamp in a container;
 - The containers must be closed, structurally sound, compatible with the contents of the lamp;
 - The containers must lack evidence of leakage or damage that could cause release of material.

Response to Releases: Continued...

Emergency Procedures for Batteries

- If the casing of a battery is breached or shows evidence leakage, spillage, or damage, the battery and any associated spilled material must be placed in a container. The container must be closed, structurally sound, compatible with the contents of the battery, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions



Response to Releases: Continued...

Emergency Procedures for Batteries

- The container would now be classified as a **hazardous waste** and must be managed accordingly. This includes properly labeling the container and ensuring that it is immediately brought to central hazardous waste storage. The date that the containers is brought to the central storage should be filled in on the label.
- Contact Safety Department for hazardous waste pick up.

SHIPMENTS

SQHUU & LQHUU Continued...

- Must send universal waste only to other handlers or destination facilities (§273.15 or §273.35)
- Do not ship without notifying Safety dept.
- Ship twice a year and have notify Safety along with the appropriate account numbers for disposal.
- Quantify approximate weight.

Other Universal Wastes

- Paint and Paint related Waste.
- Mercury Containing Equipment.
- Antifreeze
- Aerosol cans
- Cathode ray tubes
- E-Waste: New regulations and treated differently

PAINT

- All latex paint can be dried out and thrown in the trash.
- If the can has paint in it you can mix cat litter in with it to solidify it and then throw it in the trash.
- If it is a considerable amount you can paint a piece of cardboard over and over.
- You can also pour it in thin layers in a shallow tray and let it dry.
- Once latex is dry it is safe to throw it in the landfill.
- The lid needs to be off the container so that the garbage collectors know the container is empty or dry.

MERCURY CONTAINING EQUIPMENT (MCE)

- New Federal Waste Category added in 2005 and regulations under universal waste rule.

Manometers

Mercury wetted switches

Thermometers

Temperature gauges

Barometers

Pressure relief gauges

Relay switches

Sprinkler system contacts

Meters

Mercury regulators

TRAINING

- Must ensure that all employees handling or supervising universal waste management are thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies.
- Must handle response to releases.

Enforcement, Fines and Penalties

Two regulatory agencies that oversee universal waste compliance in TEXAS are:

- State – Texas Commission on Environmental Quality (TCEQ)
- Federal – United States Environmental Protection Agency (USEPA)

***Both can proceed with civil or criminal prosecution for hazardous waste violations**



Enforcement, Fines and Penalties

- Individuals may be criminally prosecuted for knowingly
 - Transporting waste to non-permitted facility
 - Improper disposal of hazardous waste/Universal waste (including down drain, in general trash)
 - Making false statements on any label, record, report or other form used for compliance purposes
- Individual criminal penalties may consist of:
 - \$50,000 for each day of violation and/or prison sentence of 2-5 years

Enforcement, Fines and Penalties

Civil Penalties

\$250 - \$27,500 per day, per violation



Questions?