

Covanta SEMASS

Best Management Practices for Maintaining a Universal Waste Shed

I. Introduction

Covanta is a waste energy company that uses trash as a fuel to make electricity. The best way to reduce mercury emissions in a power plant is to not have mercury in the trash in the first place, so Covanta works to educate the public about proper handling of mercury containing items.

Role in Developing and Maintaining Universal Waste Sheds:

It is important to collect mercury containing devices and keep them out of the environment. Mercury is the only liquid metal and functions uniquely to connect circuits and turn devices on or off. Mercury is extremely toxic, and is contained in glass because it will corrode metal. This poses a threat because glass is so fragile that if it breaks, the release of mercury can cause substantial environmental damage.

Importance of Universal Waste Sheds:

Universal Waste Sheds are important to collect mercury-containing devices and keep them out of the environment. Universal waste sheds work well when located at a drop off recycling center or solid waste facility because they are in a central location that is accessible for people, and the signage is a constant reminder that when someone needs to dispose of a mercury containing item, such as a fluorescent lamp or a thermometer, the Universal Waste shed is the right place to bring the item.

Outline of document:

This guide will cover what types of waste should and should not be brought to a Universal Waste shed, proper procedures for storing Universal Waste, how to clean up mercury spills and broken fluorescent lightbulbs, how to arrange a pickup of Universal Waste, and what resources are available from Covanta SEMASS to aid in this process.

Key Messages:

Do not dispose of mercury containing items in the trash. Instead, bring them to a Universal Waste Shed to be consolidated for recycling. The only exception to this rule is liquid mercury. If your customers need to dispose of liquid mercury in Covanta SEMASS territory, call Complete Recycling Solutions at 866-277-9797. In other communities, call the Board of Health for pickup information.

II. Universal Waste Regulations

Description of Universal Waste:

The Universal Waste Shed does not accept hazardous waste. Hazardous waste should be dropped off at a household hazardous waste collection. Information about these events can be found through the Board of Health or the Department of Public Works, depending on the community.

Liquid Mercury:

Residents may have liquid (elemental) mercury at home. Though Universal Waste Sheds are for the collection of mercury containing products, they are not for the collection of liquid mercury. This is a hazardous material, and people should not transport it themselves. In the Covanta SEMASS area, call Complete Recycling Solutions and have them pick up the elemental mercury directly at the home or business, and the collection will be paid for by Covanta SEMASS. In communities not served by SEMASS, call the Board of Health for pickup information.

Where to Find Universal Waste Information:

You can find the Universal Waste Rule on the MassDEP website:

<http://www.mass.gov/eea/docs/dep/recycle/hazardous/univrule.pdf>

Universal Waste encompasses mercury containing products such as thermometers, barometers, blood pressure cuffs, fluorescent lamps and button cell batteries. Other Universal Wastes are rechargeable or lithium batteries and pesticides. These additional items may be collected in the Universal Waste Shed, but the recycling costs are not covered by the Covanta SEMASS program.

Mercury Management Act in MA law states that all mercury containing items need to be recycled. This includes fluorescent lamps with either the silver tip or green tip on the end. The green tip bulbs were previously considered low mercury and disposable, but the Act was updated in 2006 and now all mercury containing items including green tip bulbs must be recycled. The Massachusetts Mercury Management Act Summary can be found on the MassDEP website at:

<http://www.mass.gov/eea/docs/dep/toxics/laws/hglawfax.pdf>

How to identify/determine handler status:

A small quantity handler is categorized as having a maximum of 5000 kg on site at any one time, which equates to 11500 pounds, or approximately 11500 lightbulbs.

Universal Waste may be consolidated from satellite locations i.e. municipal buildings, schools, tanning businesses or hardware store collection points. Consolidating in your Universal Waste Shed optimizes transportation costs.

Requirements for Universal Waste Collection Areas

1. Dry and secure storage area: Universal waste should be collected in a place that is dry and secure. It can be a designated room, shed, or drop off center with locked gate.
2. 1 year storage limits: waste may not be stored for more than one year from the first date of accumulation.
3. Signage: The shed needs to be labeled clearly with Universal Waste Collection Area. The sign may also show what should and should not be included. People often confuse Hazardous Waste and Universal Waste. Hazardous Waste—items such as chemicals or paint—should not be dropped off in a Universal Waste Shed.
4. Closed packages: keep the tops of boxes, drums or pails closed.

5. Label Requirements: Containers of Universal Waste must be labeled clearly as “Universal Waste” then the type of material inside i.e. “Used Thermostats”, “Waste Fluorescent Bulbs”, etc. and the Accumulation Start Date. Pre-printed labels can be used, or the information can be written directly on the containers.

6. Weekly inspection logs are not required, but a BMP is to check boxes regularly to see if they have gotten wet, or damaged.

III. Universal Waste Sheds Advertising/Marketing Logistics

Who has access to a Universal Waste Shed:

Residents, small businesses, schools, and municipal departments all may have access to the shed. Specific town access may vary.

Making sure information is accessible to targeted groups:

Media can help get the word out about how and where to recycle Universal Waste. Methods can include putting up posters around town and posting digital posters and information on a website. The goal is to make the information as easy to find as possible. Use every opportunity to let people know they should not throw a mercury-containing item in the trash.

Online resources:

The Center for EcoTechnology and Covanta SEMASS collaborated to develop a [Digital Booklet on Recycling Resources for Difficult-To-Manage Items](#). This booklet can be distributed as an informational guide.

IV. Receiving Universal Waste

Materials to have on hand:

- Rubber gloves & safety glasses
- Packaging tape
- Markers
- Zip seal bags for secondary containment of mercury containing devices or spill clean up
- Index cards or stiff paper for spill clean up
- Double sided tape for spill clean-up area delineation
- Rigid plastic container with lid for spill clean up
- Universal Waste Spill Kit (available with Covanta SEMASS shed, or through safety supply companies)

Universal Waste Shed Boxes Set-Up:

When setting up boxes, follow these guidelines:

- 1) Boxes need to be able to close after the bulbs are added.
- 2) Containers for straight four, six or eight foot bulbs can be the original boxes the lightbulbs came in, boxes from recycling vendor, or large fiber drums for holding many bulbs.
- 3) It is preferable that the bulbs are delivered loose so they fit easily into the containers.
- 4) If bulbs are taped, do not try to peel the tape off because that can break the bulbs. If you have scissors, you can cut the tape and separate the bulbs.
- 5) Make sure the containers are labeled with 'Universal Waste', what the contents are and the accumulation start date. Reminder: Universal Waste has to be picked up within 12 months of the date first bulb was placed in the container. You do not need a pre-printed label; the information can be written directly on the box.
- 6) Position boxes so they do not fall over.

Additional Material Information:

- 1) If bulbs are already in a box with packing material left in the bottom, transfer the bulbs into another container and remove the extra material so that the box will close.
- 2) Two foot boxes work well for receiving U-style, circline or short straight bulbs with or without cardboard packaging.
- 3) Smaller bulbs can be collected in five gallon pails. Compact fluorescent light bulbs (typically have a swirl shape, but may just have the swirl inside), metal halide, and mercury vapor lamps are all types that should be collected. They can be placed carefully in any rigid plastic container with a lid. Be sure to label the container "Universal Waste, Waste Fluorescent Bulbs" and the accumulation start date.
- 4) Incandescent lightbulbs do not contain mercury and can be thrown in the trash. There is a guide available from Covanta SEMASS to show which bulbs contain mercury and which do not.

Setting up boxes for 8 foot bulbs:

- 1) It is helpful to have an assistant because the boxes are large.
- 2) Unfold the box flat. Reach inside with one hand and push down on the top to make it into a rectangular shape, and then tape one end.
- 3) Add lightbulbs, label and position the box in the shed in such a way that it will not fall over to shatter the bulbs.

Containers for Mercury Containing Devices

- 1) Use a separate plastic bucket for mercury containing devices such as thermostats and thermometers. Place them in secondary containment such as plastic bags first if possible, and then in bucket.
- 2) If you receive other mercury containing devices such as blood pressure cuffs, monometers, barometers, or switches, they are typically very heavy so do not place them in the same bin as the delicate thermometers. Instead, use a separate bucket also labeled "mercury

containing products” with the accumulation start date, put the devices in secondary containment if possible, and place them in carefully.

Other Universal Waste Items:

- 1) **Rechargeable batteries** are considered Universal Waste, however not all batteries contain mercury. Button cell batteries that contain mercury should be collected separately from other types of batteries. They should be labeled “universal waste-button cell batteries” with the accumulation start date.
- 2) **Alkaline batteries** do not contain mercury and can be disposed of in the trash.

If Liquid (elemental) mercury arrives at the Universal Waste Shed:

If a resident arrives with Liquid Mercury, do not turn them away with it even though it is really Hazardous Waste. Put gloves on and place the container in double or preferably triple containment using plastic bags and rigid plastic containers. Call vendor for immediate pickup. In Covanta SEMASS communities, the vendor is Complete Recycling Solutions at 866-CRS-9797

Mercury spill clean-up:

- 1) Mark off the area to show where the spill is and keep people away from the area. If possible, use double sided sticky tape, around the outside of the spill area so that any rolling droplets of mercury will get stuck on the tape and be easier to collect.
- 2) Evacuate the room and let it ventilate for 15 minutes by opening a window.
- 3) If you have a spill kit, it includes zinc or sulfur powder to sprinkle on the mercury droplets and make them easier to pick up. You could also use the included sponges made of the same material.
- 4) To clean up without a spill kit, do not use a vacuum cleaner or broom because the mercury will stay in the broom or vacuum and spread mercury contamination to other locations.
- 5) Put on gloves. Use two index cards or stiff pieces of paper to drag droplets of mercury together to form larger droplets that are easier to pick up with the cards.
- 6) Put glass and mercury droplets into a stiff sided container or Ziploc bags. After you pick up as much of the mercury as you can with the cards, use tape and a wet towel to pick up the rest. Using a flashlight can help you find droplets that are hard to see.
- 7) Put all the materials including tape, towel, and gloves into the stiff container. Close it and use a form of secondary containment if possible.
- 8) Label it “Hazardous Waste-mercury contaminated spill cleanup materials,” add the date of cleanup, and store it until the soonest possible pickup date.

Broken bulb clean up:

- 1) Mark off the area so no one steps in broken glass, phosphorous powder or mercury.
- 2) Leave the area and let it ventilate for 15 minutes.

- 3) Do not use a dust pan and broom because mercury and powder will get stuck in the broom and next time you use it you will spread it around. Similarly, do not use a vacuum because mercury will stay inside it.
- 4) Instead, put on gloves and use stiff paper or index cards to pick up all the mercury that you can see and place into a sealable bag or rigid plastic container with a lid. Use tape to blot up glass and powder residue, and finally wipe with a wet towel to clean the area. Place all the cleanup materials into the rigid container, label the container with "Universal Waste-broken fluorescent bulb" and the date, and store for pickup.

Items to reject or redirect for alternate handling:

- 1) Hazardous waste should be dropped off at a household hazardous waste collection. Information about these events can be found through the Board of Health or through the Department of Public Works, depending on the community.
- 2) Needles should be rejected. Some Boards of Health have Sharps collection boxes.
- 3) Medications should be rejected. Boards of Health or Police Departments usually have drop off facilities.
- 4) Smoke Detectors: Smoke detectors do not contain mercury and are not included in the Covanta SEMASS Material Separation Plan. They should be handled according to the manufacturers specifications listed on the individual product. Many electronics recyclers accept smoke detectors; please check with vendor for pricing.
- 5) Rechargeable batteries are considered Universal Waste, however not all batteries contain mercury. Alkaline batteries do not contain mercury and can be disposed of in the trash or recycled . Check with your electronics recycler for pricing information.
- 6) LED, incandescent and halogen light bulbs do not contain mercury and do not belong in a Universal Waste Shed. They can be put in the trash.
- 7) TV's/CRT's contain leaded glass and are therefore banned from disposal; however they are typically not collected in Universal Waste Sheds. Some laptop computers or flat screen monitors have a small fluorescent bulb inside. Check with your electronics recycler for more information.
- 8) PCB Ballasts do not contain mercury however they are regulated and must be kept out of the solid waste stream. Check with electronics recycler or Household Hazardous Waste Vendor for pricing.

V. Pick-Up of Universal Waste Shed Materials

Timeline for Pick-up:

There is a one year accumulation limit before boxes need to be picked up. In addition, mercury containing materials must be picked up if small quantity handler limits are reached. Typically municipalities call for pickup when they have at least 10 full boxes.

Information Required for Pick-Up:

To schedule a pick-up, call the vendor (or SEMASS representative) and be ready to provide the following information:

- 1) Quantity and type of full boxes or buckets
- 2) Quantity and type of replenishment supplies needed
- 3) Contact name and phone number
- 4) Site address
- 5) Hours of operation

NOTE: In the Covanta SEMASS communities, if Complete Recycling Solutions is not your vendor, provide a copy of itemized invoice to Covanta SEMASS for reimbursement and reporting.

VI. Conclusion

Review:

Collect fluorescent bulbs and mercury containing devices safely in a Universal Waste Shed.

- 1) Label the secure area
- 2) Keep bulbs in boxes with lids closed
- 3) Label containers with accumulation start date
- 4) Use secondary containment for collecting mercury containing devices
- 5) Clean up spills or breakage properly and promptly.
- 6) Don't allow miscellaneous items to accumulate in your shed
- 7) Do allow small businesses, schools and municipal offices to use your shed.
- 8) Call for pickup as needed

For more information

Contact Patti Howard for information regarding the Covanta SEMASS Material Separation Plan

PHoward@covanta.com

Cell: (508)-962-7398

Websites for more detailed waste and recycling information

MassDEP <http://www.mass.gov/eea/agencies/massdep/recycle/>

Keep Mercury From Rising <http://keepmercuryfromrising.org/>