



Universal Waste Storage

Florida Institute of Technology (Florida Tech)

Environmental Health & Safety (EH&S)

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REVISION HISTORY

Revision Number	Revision Date	Revised By	Description of Change
00	08/13/2020	Carolyn Martinsen	Initial plan creation and implementation.

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INTRODUCTION

The Environmental Protection Agency's (EPA) universal waste regulations streamline the hazardous waste management standards for certain categories of hazardous waste that are commonly generated by a wide variety of establishments. The streamlined regulations:

- promote the collection and recycling of universal waste,
- ease the regulatory burden on retail stores and other generators that wish to collect these wastes and transporters of these wastes, and
- encourage the development of municipal and commercial programs to reduce the quantity of these wastes going to municipal solid waste landfills or combustors.

The federal universal waste regulations are found in Title 40 of the Code of Federal Regulations (CFR) in part 273 and apply to four types of universal waste:

- Batteries
- Pesticides
- Mercury-Containing Equipment
- Lamps

The universal waste regulations require the materials be managed in a way to prevent releases to the environment and tailors those requirements to each type of universal waste. The standards also include labeling, a requirement to respond to releases, and transport to a facility that is permitted or otherwise designated for receiving hazardous waste

RESPONSIBILITIES

Environmental Health and Safety

Perform weekly inspections to ensure storage compliance. Maintain records of inspections for three years. Schedule waste pickups through an approved vendor.

Facilities

Collect and store universal waste in accordance with this plan and federal and state regulations.

DEFINITIONS

Department of Transportation (DOT)

The department of the U.S. federal government that coordinates and institutes national transportation programs.

Environmental Protection Agency (EPA)

An independent federal agency, created in 1970, that sets and enforces rules and standards that protect the environment and control pollution.

Main Accumulation Area

It is the area, or areas, at the facility of a hazardous waste generator where hazardous waste accumulates if it meets the conditions for the accumulation of hazardous waste as defined by the Environmental Protection Agency.

Universal Waste

Universal waste is a category of waste materials designated as "hazardous waste" but containing materials that are very common. It is defined in 40 C.F.R. 273.9, by the United States Environmental Protection Agency.

TYPES OF UNIVERSAL WASTE

Lamps

Whenever possible, the original manufacturer's packaging should be used to store waste lamps. This is beneficial for several reasons. First, the original packaging was designed specifically for its contents. Second, the packaging meets the Department of Transportation (DOT) shipping requirements and, third, the packaging is available at no additional cost. When manufacturer's packaging is not available, an appropriate drum or box should be used. Before starting a new container, check that all existing containers are full.

All containers must be labeled with the phrase "Universal waste- lamp(s)" and a start date. For better organization and housekeeping, containers should also be labeled with the contents. Do not write directly on drums; use the labels provided. Contact hazwaste@fit.edu to request additional labels.

All lamps should be sorted and packaged according to type.

Compact fluorescent

Accumulate compact fluorescent lamps in a 55-gallon drum. Label with the phrase "Universal waste- Lamp(s)" and the start date

High Intensity Discharge (HID)

Accumulate HID lamps in a 55-gallon drum. Label with the phrase “Universal waste- Lamp(s) and the start date

2-Foot/ U-Tube Lamps

2-foot and u-tube lamps should be stored in a 30-gallon drum whenever a manufacturer’s box is not available. The container should be labeled with the phrase “Universal waste- Lamp(s) and the start date

6-Foot/ 8-Foot Lamps

6-foot and 8-foot lamps should be stored in an 8-foot box. The box should be assembled using the “H” tape method, see attachment A, at the base. The top flaps may be folded or taped shut while lamps are being accumulated. Once the box is full, the top should be sealed using the “h” tape method as well. The box should be labeled with the phrase “Universal waste- Lamp(s)” and the start date.

4-Foot Lamps

The order of preference of method for accumulating and storing 4-foot lamps are as follows:

1. Original packaging. Whenever possible, the original packaging should be used. The package must be intact.
2. Four-foot fiber drums.
3. Four-foot lamp boxes. May be used when available, boxes should be assembled and sealed using the “H” tape method, see Attachment A.

All 4-foot lamp containers should be labeled with the phrase ““Universal waste- Lamp(s)” and the start date.

Pesticides

Contact hazwaste@fit.edu for pesticide storage.

Aerosol Cans

Aerosol cans, whether empty or not, must be disposed of in a metal 55-gallon drum labeled with the phrase “Universal waste- aerosol cans” and the start date.

Batteries

Batteries must be removed from any housing; any wires must be removed and disposed of through the property department as electronic waste. Batteries must then be sorted and packaged by type.

Lead Acid Batteries

All terminals on lead acid batteries must be protected from discharge. This can be accomplished by taping over the terminals on the batteries. Lead acid batteries should be accumulated in a 30-gallon drum and label with the phrase “Universal waste- battery(ies)” and the start date.

Lithium-ion Batteries

All terminals on lithium-ion batteries must be protected from discharge. This can be accomplished by taping over the terminals on the batteries. Accumulate lithium ion batteries in a 15-gallon drum labeled with the phrase “Universal waste- battery(ies)” and the start date.

Nickel-Cadmium Batteries

Accumulate nickel-cadmium batteries in a 15-gallon drum labeled with the phrase “Universal waste- battery(ies)” and the start date.

Alkaline Batteries

Alkaline batteries are not hazardous waste and may be disposed of in the trash.

UNIVERSAL WASTE STORAGE

Choosing a Container

The Universal waste storage shed also serves as storage for the department of Environmental Health and Safety (EHS). EHS stores DOT rated shipping containers for the shipment of hazardous wastes. Please keep this in mind when using containers.

Universal waste may be stored for up to a year, so when choosing containers, consider how much of a waste stream we can accumulate in that time frame. For example, use a 55-gallon drum for compact fluorescent lamps instead of three 15-gallon containers. Fill all drums completely before starting a new container.

All containers must be compatible with their contents. Both fiber and metal drums are available for use; metal drums must be used to store aerosol cans. When cardboard boxes are used for lamps, they must be assembled properly to prevent leakage. See Attachment A, “H” Tape Assembly.

Labeling

All containers must be labeled with a start date and the words “Universal waste-” followed by the type of waste, see Types Of Universal Waste section for specific labeling instructions. Labels are provided by EHS, contact hazwaste@fit.edu to request additional labels. See Appendix A: Labels, for examples. Please use labels provided as they contain the required labeling information and do not write on the container itself. To promote better housekeeping, the contents of the container should also be written on the label. Labels must be firmly affixed to packaging; use clear packing tape to reinforce labels, when necessary. Drums may be marked full when applicable, by writing a capital F within a circle on the label: (F)

Storing Containers

Containers must be kept closed except when actively adding waste. Box tops must be taped shut, and drums must be locked shut using the appropriate drum ring. Containers must be stored in an organized fashion to provide adequate aisle space to allow for inspection. Containers cannot show any signs of leakage or damage. Any compromised containers must be replaced. Any spills should be cleaned using the appropriate spill kit. Broken lamps should be vacuumed, and the contents added to the broken lamp drum.

INSPECTIONS

Per federal regulations, inspections of the universal waste storage shed are to be performed weekly. Currently, the EHS department performs and documents these inspections. The following list is a summary of inspection points.

- Containers are in good condition and are structurally sound
- No signs of leakage or broken lamps
- Adequate aisle space between containers
- Containers start dates within past 365 days
- All containers are closed
- Incompatible wastes are separated
- Aerosol cans are protected from source of heat
- Labels contain a start date
- Labels are firmly affixed to the container
- Containers are labeled with the appropriate “universal waste” phrasing
- Communication device available

- Safety shower and eyewash are operational
- Storage area is locked when unattended
- Spill kit is stocked and readily available

Failure to meet any of these conditions is considered a violation and results in a failed inspection. Violations found during formal inspections by the EPA result in fines to the University.

UNIVERSAL WASTE-

Aerosol Cans(s)

Start Date:

UNIVERSAL WASTE-

Battery(ies)

Start Date:

UNIVERSAL WASTE-

Lamp(s)

Start Date:

ATTACHEMENT A: "H" TAPE PATTERN

1. Fold opposing box flaps down



2. Tape down the center seam, securing flaps, using clear packing tape



3. Seal open seams with clear packing tape, creating an "H" pattern.



ATTACHMENT B: SIGNATURE PAGE

By Signing below, I certify that I have fully read and understand the information provided in Florida Institute of Technology's Universal Waste Storage Plan.

_____	_____	_____
Name (Last, First)	Signature	ID Number
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