Handling and Disposal of Universal Waste on University of South Alabama Campuses

(Regulated by EPA, ADEM and TSCA under 64 FR 36466 & 70 FR 45508)

Universal waste means any of the following hazardous wastes that are subject to the universal waste requirements:

Batteries
Bulbs
Ballasts (non-electronic)
Mercury-containing equipment
Pesticides
Aerosol cans

Some states classify electronic scrap, motor oil and ballast as universal waste, however, the State of Alabama does not classify them as universal waste at this time. It is still necessary for these materials to be disposed of properly and in accordance with Federal, State and Local Regulations.

University of South Alabama Main Campus is considered to be a Large Quantity Generator of Universal Waste. University of South Alabama-University Hospital, University of South Alabama Children and Women Hospital and USA Providence Hospital are considered to be Small Quantity Generators of Universal Waste.

LEGAL REQUIREMENTS

ACCUMULATION TIME: A generator of universal waste may accumulate waste for no longer than one year from the date storage is started. The generator must be able to demonstrate the length of time that the Universal Waste has been accumulating. Labeling each container with the accumulation start date satisfies this requirement (Month, day & year). All handlers of universal waste must be informed of procedures for proper handling, storage and emergency procedure's appropriate to the types of Universal waste handled at each facility.

STORAGE: All Universal waste must be stored in a secure area that is protected from the elements. No waste (chemical or universal) can be stored where rain, vandals, etc., can damage the storage containers and breakage can occur releasing the materials to the surrounding environment. The storage area must be labeled with the words "Universal Waste Storage Area."

FREQUENCY OF SHIPMENTS: The Safety & Environmental Compliance (SEC) department normally ships universal waste 3-4 times a year. In an effort to reduce costs, we attempt to include as many of the USA facilities as possible in each shipment. By law, all USA Campuses must ship collected Universal Waste, at minimum, once a year.

INDIVIDUAL USA FACILITIES RESPONSIBILITIES: When a universal waste shipment is being scheduled, all campuses will be contacted by the SEC department to determine whether a sufficient quantity is on hand to ship. At that time, the facility contact will be asked to obtain an accurate count of light bulbs, barrels of ballast, batteries,etc., to be shipped. A response back to the SEC Department, is requested within 48 hours of initial contact.

It is the individual facility's responsibilities to ensure that the count is accurate, shipping containers are in good condition and all packaging requirements have been met. (See requirements below). If the facility's packaging does not meet DOT requirements, the shipment can be refused by the transporter. It is the facility's responsibility to provide the proper moving equipment (a forklift, pallet jack, drum dolly, etc.) if needed. All Universal waste materials must be staged in an area that allows easy access for an 18-wheel truck and still afford protection from the elements. The SEC department will make every effort to schedule pickup within normal working hours (8 a.m. 2 p.m.) and to give a minimum of 24-hour's notice as to the time and date of the shipment. There will be a representative from the SEC department on each site to sign all required paperwork. The vendor allows 30 minutes per pick up stop for loading of the truck. If more time is needed to load the vehicle, additional charges are billed to the university.

It is the individual facility's responsibility to tape all lamp boxes shut, stack on a structurally sound pallet (4 boxes across and maximum of 5 boxes high). Each box must have its own "Universal Waste" label attached. Pallets must be stretched-wrapped in a manner that prevents the boxes from shifting during transport. Partially full boxes should be placed on the top of the full packed boxes to prevent crushing of the bulbs during shipment. Boxes for 4 ft, 8 ft and u-bend bulbs are provided to the facility by the disposal vendor upon request. The boxes that the bulbs originally were received in can be used to send spent bulbs off for recycling. Each box/container MUST be taped shut.

TYPES OF UNIVERSAL WASTE AND PACKAGING REQUIREMENTS:

BATTERIES

Lead-acid (wet & dry)	Ni-Cad	Mercury	Alkaline	Lithium
Nickel metal halides	Magnesium	Silver oxide	Carbon Zinc	Uninterrupted power supply sources

All batteries must be packaged for transportation in a manner that prevents short circuiting and damage to the battery or its terminals. This may be achieved by packing each battery in fully enclosed inner packaging made of non-conductive materials or taping the terminals of the batteries. All batteries must be stored in plastic, sealable containers, clearly marked with the words "Universal Waste–Batteries" and dated with the month and year that storage BEGAN. Each class of battery is to be stored separately.

SEC should be called for a battery pick-up when the facility has collected no more than 50 pounds. Small amounts of batteries will be collected from the generator and stored in 30-gallon plastic drums by the SEC department until the drum is full and ready to be shipped off for recycling.

Large lead-acid batteries (automotive and larger) should be recycled locally by each USA facility. Local battery supply vendors will normally take automotive or larger lead-acid batteries for recycling and pay the current rate for the metal.

BULBS

Spent fluorescent bulbs	High intensity discharge		Mercury /Sodium Vapor
(4 foot, 8-foot, circular, u-bends, etc.)	UV lights	Halides	Compact Fluorescent Bulbs

(Incandescent bulbs ("household bulbs") and LED bulbs are not required to be recycled at this time)

All bulbs to be recycled must be stored in fiberboard boxes, provided by contract vendor–upon request at time of shipment or in the manufacturer's boxes that the bulbs were shipped in. USA Main Campus has a limited number of fiberboard barrels available to facilities upon request. All boxes of bulbs must be labeled with the words "Universal Waste-Lamps" and dated with the month, day and year storage BEGAN. Each bulb type must be stored separately from another. Lids must be securely on all barrels except when adding to the barrel. Bulbs should not be deliberately crushed, as personnel exposure can occur and the disposal cost of crushed materials is considerably higher than intact bulbs. The boxes/barrels should be taped shut when filled to capacity.

It is the individual facility's responsibility to tape all lamp boxes shut, stack on a structurally sound pallet (4 boxes across and maximum of 5 boxes high). Each box must have its own "Universal Waste" label attached. Pallets must be stretched-wrapped in a manner that prevents the boxes from shifting during transport. Partially full boxes should be placed on the top of the full packed boxes to prevent crushing of the bulbs during shipment. Boxes for 4 ft, 8 ft and u-bend bulbs are provided to the facility by the disposal vendor upon request. The boxes that the bulbs originally were received in, can be used to send spent bulbs off for recycling.

BALLAST

PCB ballast	Non-PCB ballasts	Pole Ballast

(Electronic ballasts are not required to be recycled at this time)

Ballast must be collected in 55-gallon open head metal drums, provided by the SEC department upon request. All barrels must be labeled "PCB-containing ballast" or "Non-PCB containing ballast" with the month and year storage BEGAN. A "Universal Waste" label must be attached to the drum and have a start date clearly written on the label. Drums must be placed on a structurally-sound pallet and stretch-wrapped together to prevent shifting during shipment.

METALLIC MERCURY AND MERCURY-CONTAINING DEVICES:

The University handles this type of material as a lab-pack waste, on a case by case basis, but these devices must be handled in such a manner that prevents breakage/leakage of the ampules and causing a release of mercury to the

surrounding environment. Storage of these devices must be in a structurally sound, sealable plastic container and be labeled with "Universal Waste-Mercury Containing Devices."

PESTICIDES

The University handles this type of materials as a lab-pack waste, on a case by case basis, but these materials must be handled in such a manner that prevents breakage/leakage and release to the surrounding environmental.

The best method of handling these materials is to purchase only what is needed at the time.

AEROSOL CANS

Aerosol cans have only recently become an EPA-regulated Universal Waste

An aerosol container is a dispenser that holds a substance under pressure and that can release the substance, usually by means of a propellant gas, in a number of forms such as wet sprays, fine sprays, powder sprays, foams, or pastes. Common liquefied propellants include propane, butane, and isobutane.

Some aerosol products (e.g., paints, solvents, pesticides) are hazardous due to the presence of hazardous ingredients. Aerosol products should be used with adequate ventilation and/or personal protective equipment to prevent inhalation and exposure that may result in harmful health effects. Most aerosol containers pose a fire hazard because they contain highly flammable propellants such as propane and butane. Pressurized containers present additional concerns. If punctured, the contents may be released so forcefully that injuries can result. Also, pressurized containers delivered to a landfill present safety concerns during compacting.

Any container holding non-punctured aerosol prior to puncturing must be clearly labeled as non-punctured aerosol cans. Any container holding punctured aerosol cans, prior to disposal must be clearly labeled as punctured aerosol cans.

An aerosol container is regulated as solid waste (not hazardous waste) if it:

1) Did not contain a material that would be a listed hazardous waste or a characteristic hazardous waste;
2) Is empty, as defined by ADEM Admin. Code r. 335-14-2-.01(7)
3) Is recycled for scrap metal in accordance with ADEM Admin. Code r. 335-14-2-.01(6).

An aerosol container is regulated as hazardous waste if it:

1) Contains a material that is a listed hazardous waste or a characteristic hazardous waste;
2) Is not empty, as defined by ADEM Admin. Code r. 335-14-2-.01(7);
3) Is not recycled for scrap metal in accordance with ADEM Admin. Code r. 335-14-2-.01(6).

NOTE:
According to ADEM Admin. Code r. 335-14-2- .01(7), a container is empty if:
1) All materials have been removed that can be using common practices;
2) No more than one inch of residue remains in the bottom or no more than 3% by weight of the total capacity remains in the container;
3) The internal pressure is at or near atmospheric pressure;
4) It did not contain an acute hazardous waste.

Each University facility is equipped with an aerosol can puncture & collections units attached to a 55-gallon drum. The containment drum must be clearly labeled with a Universal Waste label and the contents (captured aerosol can materials) clearly identified. Once the can has been drained and the contents collected in an appropriate collection drum (provided by the SEC department), the empty cans should be disposed of. While landfill disposal of the empty container is an acceptable disposal method, the better alternative is to send the empty container to a scrap metal recycler.