UNIVERSITY OF NORTH CAROLINA
SCHOOL OF THE ARTS

Universal Waste Guide

Environmental Health and Safety

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I. Purpose

This program establishes the process for UNCSA to a) comply with all federal, state, and local regulations to properly handle, centralize, store and dispose of universal waste generated on campus; b) help protect human health and the environment.

II. Scope

This program applies to all potentially hazardous wastes that are commonly generated in campus buildings and to the employees who handle these wastes. Examples include lighting ballasts and florescent bulbs; batteries; toner cartridges.

III. Definitions

A. **"Battery"** means a device consisting of one or more cells, in which chemical energy is converted into electricity and used as a source of power that is designed to receive, store, and deliver electric energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

Battery Type	Common Use	Hazardous Component
Alkaline and Carbon zinc AAA, AA, C, D, 9 volt	Cameras, handheld electronics	Non-toxic, can leak with age
Lead-acid gel	Automotive, portable tools, outdoor power equipment	Lead, acid electrolyte
Lithium AAA, AA, 9 volt	Cameras, handheld electronics, tire-pressure sensors, alarms, memory backup, high-temperature applications	Non-toxic, can overheat or explode if short-circuited
Li-ion	Cell phones, laptops, tablets, power tools, handheld electronics, digital cameras	Non-toxic
Mercury AA, 9 volt	Cameras, digital thermometers, calculators, medical devices	Mercury
Nickel-cadmium AAA, AA, C, D	Cell phones, laptops, tablets, power tools, handheld electronics	Cadmium
Nickel metal hydride AAA, AA, C, D, 9 volt, 12 volt	Cell phones, laptops, power tools, cameras, handheld electronics	Non-toxic
Silver oxide	Hearing aids, cameras	Non-toxic
Uninterruptible power supply (UPS)	Stationary power	Acid electrolyte
Zinc air 9 volt	Hearing aids	Non-toxic

B. "**Battery waste**" becomes universal waste on the date that it is removed from service because it is no longer operable, or no longer wanted or needed.

C. "**Generator**" means any person, or site, whose act or process produces universal waste.
D. **"Lamp"** or **"universal waste lamp"** is defined as the bulb or tube portion of an electric lighting device. Common examples of universal waste lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. Incandescent lamps (i.e., normal household lamps) are not considered to be universal waste and may be disposed of in the regular trash.
"Lamp waste" or **"universal waste lamp waste"** becomes universal waste on the date that it is removed from service because it is no longer operable, or no longer wanted or needed.
E. **"Mercury-containing equipment"** means a device or part of a device (including thermostats, thermometers, barometers, manometers, blood pressure cuffs, mercury switches, but excluding batteries and lamps) that contain elemental mercury integral to its function.
"Mercury-containing equipment waste" becomes universal waste on the date that it is removed from service because it is no longer operable, or no longer wanted or needed.
F. **"Thermostat"** means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element and mercury-containing ampules that have been removed from the temperature control device in compliance with Section 733.113(c)(2) or 733.133(c)(2).
"Thermostat waste" becomes universal waste on the date that it is removed from service because it is no longer operable, or no longer wanted or needed.
G. "**Universal waste**" are hazardous wastes that are commonly generated in a wider variety of establishments. Recycling of universal waste is encouraged, unless broken or damaged. Damaged and broken universal waste materials must be treated as hazardous waste.
H. "**Universal waste handler**" is: (1) a generator of universal waste, or (2) one who receives universal waste from other universal waste handlers, (3) or who accumulates universal waste, and sends universal waste to another waste handler.

IV. Responsibilities

A. **Facilities Operations**
   i. Properly handle, transport, store and dispose of all universal waste.
   ii. Ensure handlers are properly trained.
B. **Facilities Project Managers and Contractors**
   i. Ensure that any demolition/renovation projects that may generate universal waste are conducted in accordance with this program.
   ii. Ensure contractors hired to remove, store, and dispose of universal waste are handled in a manner consistent with this program.
C. **Departments and Units (i.e., Residential Services, Art Schools, and other departments)**
   i. Properly handle, transport, store and dispose of all universal waste.
   ii. Ensure handlers are properly trained.
D. **Environmental Health and Safety (EHS)**
   i. Periodically inspect accumulation areas to ensure containers are properly labeled, closed, and not leaking or damaged.
   ii. Periodically update this program as needed.
   iii. Coordinate universal waste training for handlers of universal waste.

iv. Maintain records associated with training for staff assigned to manage and handle universal waste.
v. Maintain all records, including waste manifests and shipment receipts, associated with battery, lamp, and mercury-containing equipment wastes.
vi. Respond to any releases.

V. Universal Waste Management Program

It is expected that universal waste will be generated while replacement of batteries, lamps, or mercury-containing equipment; and during construction and demolition or renovation projects in areas where battery, lamp, and mercury-containing equipment wastes exist and require disposal.

A. **Universal Waste Accumulation Areas**
Main Campus: UNCSA collects and stores universal wastes at the Facilities Maintenance Building, Lower level, covered outside bay.

B. **Accumulation Time Limits**
Universal waste may accumulate for no longer than one year from the date it was generated. To demonstrate that universal waste is not onsite for longer than a year, the date must be logged on the universal waste container once the first item (battery, lamp, thermometer, etc.) is placed in a container.

C. **Storage and Handling**
i. Do not place universal waste in the trash.
ii. Do not treat any universal waste, except during a response to a release or spill.
iii. All universal waste must be handled in a manner that prevents a release of any materials or components.
iv. All universal waste containers must remain closed at all times except when adding waste. The containers must be compatible with the universal waste contents and free of defects or damage that would cause leakage, spills, or other environmental releases.
v. Universal waste stored outside must be covered, to prevent precipitation from contacting the waste.

D. **Training**
i. All employees handling universal waste must be thoroughly familiar with proper universal waste handling, including personal protective equipment, and emergency procedures.

E. **Universal Waste Contractor**
The UNC-System has a 926B Statewide Mandatory Term Contract with Cleanlites Recycling, Inc. UNCSA is required to use Statewide Mandatory Term Contracts exclusively. This STC 926B is administered by the Department of Environmental Quality. For information on how to contact Cleanlites and arrange Universal Waste Pick-ups, or to see when if or when a new vendor is selected, see STC 926B on the NC State Purchasing and Contract Site at:
https://ncadmin.nc.gov/about-doa/purchase-and-contract

VI. Universal Waste Management Procedures – Batteries

A. Batteries can be dropped off at Facilities Management.
B. Separate any batteries that show evidence of leakage, spillage or damage that could cause leakage in another container.
C. Tape the battery terminals of batteries over 9-volts with clear tape.

VII. Universal Waste Management Procedures – Mercury-Containing Equipment

A. Ensure collection containers are closed except when mercury-containing equipment is added.
B. Containers must remain closed, be structurally sound, compatible with the mercury, and lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.
C. Containers for mercury-containing equipment must be labeled or marked clearly as follows:
    i. "Universal Waste – Mercury-Containing Equipment" or "Waste – Mercury-Containing Equipment"
    ii. The original product label (if legible); or
    iii. The chemical identity of the container; and
    iv. The name of the person disposing the mercury-containing equipment; and
    v. Contact information of the person disposing the mercury-containing equipment.
    vi. The date of when the container becomes full.

VIII. Universal Waste Management Procedures – Lamps

A. Packing:
    i. Use sturdy cardboard boxes that are the same length as the bulbs.
    4 ft into 4 ft boxes, 8 ft into 8 ft boxes, CFL's in square box.
    ii. You can put shorter bulbs in longer container if packing material is added to keep the lamps from breaking during travel.
    iii. Spent lamp bulbs can be re-packed into the original box they came in or empty lamp boxes can be purchased from Grainger.
    iv. Ensure containers and lids are closed except when lamps are added.
B. Containers for lamps must be labeled or marked clearly as "Universal Waste – Lamps" or "Waste – Lamps," and must include the date of when the container becomes full.
C. Broken lamps are to be cleaned per the following:
    i. Before cleanup:
        a. Should a bulb break while hot, be sure to let cool and wait 30 minutes before handling.
        b. Have people leave the room, air out the room for 5-10 minutes by opening a window or door.
        c. Collect materials needed to clean up broken bulb:
            - stiff paper or cardboard.
            - sticky tape or rollers
            - damp paper towels or disposable wet wipes (for hard surfaces); and
            - glass jar with a metal lid or a sealable plastic bag.
    ii. During cleanup:
        a. Do not vacuum- vacuuming is not recommended unless broken glass remains after all other cleanup steps have been taken. Vacuuming could spread mercury-containing powder or mercury vapor.
        b. Scoop up glass fragments and powder using stiff paper or cardboard. Use sticky tape to pick up any remaining small glass fragments and powder. Place the used tape in the glass jar or plastic bag.
    iii. After cleanup:

a. Promptly place all bulb debris and cleanup materials, including vacuum cleaner bags, in a labelled container that will prevent release of the pieces to the environment and store in designated accumulation area until disposal is scheduled.

IX. Response to Releases

A. Trained and authorized personnel must immediately contain all spill releases of universal waste.
B. If there is a release, it must be determined whether any material resulting from a release is hazardous waste, and if so, must manage the hazardous waste in compliance with all applicable requirements of 40 CFR parts 260 through 272. The handler is considered the generator of the material resulting from the release and is subject to 40 CFR part 262.
C. All designated release response handlers will be HAZWOPER trained.

X. Tracking Universal Waste Shipments

The hazardous waste manager retains records, including waste manifests, waste profiles, transportation vendor, disposal method, and inspection records for at least three years from the shipment date of universal waste.

XI. Regulatory Authority

UNCSA and contractors will comply with the Occupational Safety and Health Administration's (OSHA) standards and any other applicable codes and standards, including:

Title 40 CFR 273 – US Environmental Protection Agency Standards for Universal Waste Management

XII. Contact

For questions, contact Environmental Health and Safety at beeryt@uncsa.edu.

Revision History:
Initial Policy Creation November 2022
Revision 2, June 2023
Minor grammar fixes, clarified need to know process of handling Universal Waste, changed "tape 9-Volt battery terminals with clear tape" to "tape the battery terminals of batteries over 9-volts with clear tape".