

NJIT

New Jersey Institute
of Technology



US EPA & NJ DEP Universal Waste Program



- Established by US EPA in 1995 (40 CFR Part 273).
- Program refers to waste as “Universal” because they are common to all types of generators.
- Formerly managed as “hazardous waste”.
- Program provides less-stringent procedures for storage and transport of Universal Waste compared to Hazardous Waste.
- Primary regulatory goals – increase recycling and reduce illegal disposal practices.
- First adopted by New Jersey in 1996 (NJAC 7:26A).
- New Jersey added two categories of Universal waste, beyond the four recognized federally.
- Universal waste is classified in New Jersey’s Recycling Regulations as “Class D Recyclable Material”.

Universal Waste Management

Federal (EPA) Universal Waste Includes:

- Pesticides
- Mercury Containing Devices
- Lamps and Ballasts
- Used Oil
- Batteries

State of NJ (DEP) Universal Waste Includes:

- Pesticides
- Mercury Containing Devices
- Lamps and Ballasts
- Used Oil
- Batteries
- Thermostats
- Oil-based finishes
- Consumer electronics

✓ Other than pesticides, NJIT generates all these waste types

Examples of Universal Waste

- Non Lead Acid Batteries – wet, dry, intact, and broken batteries. Alkaline batteries are managed as non-hazardous solid waste.
- Mercury-Containing Equipment - thermostats, thermometers, barometers, and switches.
- Mercury Lamps – fluorescent, neon, metal-halide, mercury-vapor and high-pressure sodium lamps.
- Pesticides – are to be managed by the landscaping or pest control vendors.
- Consumer Electronics – Computers, printers, copiers, cell phones, electronic pads, VCRs and TVs.
- Oil-based Finishes – Paints, lacquers, stains and aerosol paint cans.

Universal Waste Handler

- EPA defines a Universal Waste Handler, in part, as any generator of Universal waste.
- NJIT is a Small Quantity Handler of Universal Waste as it always has less than:
 - 5,000 Kg;
 - 11,000 pounds; or
 - 5.5 tons of Universal Waste on campus at any time.
- A Large Quantity Handler has greater than the amounts listed above of Universal Waste onsite at any time.
- Should NJIT become a Large Quantity Handler, it will remain a Large Quantity Handler for the remainder of the calendar year.
- Goal is to remove Universal waste as soon as possible to maintain NJIT's Small Quantity Handler status

Universal Waste Storage

- All Universal waste must be stored in a manner to prevent a potential release to the environment.
- The EHS Department has a wide variety of containers available to store different types of Universal Waste.
- For example, intact light tubes are stored in fiber drums while broken light tubes are stored in 55-gallon steel drums with tight fitting lids.



Fiber Drum for
Intact Light Tubes



Steel Drum with Tight Fitting Lid
for Broken Light Tubes

Universal Waste Storage

- Similarly, intact batteries, ballasts, and switches may be stored in fiber drums while broken or batteries ballasts and switches are stored in 55 gallon steel drums with tight fitting lids.



Fiber Drum for Intact Batteries,
Ballasts, and Switches



Steel Drum with Tight Fitting
Lid for Broken Batteries,
Ballasts, and Switches

Universal Waste Storage

A variety of other containers are available from EHS to properly store Universal Waste.




1-gallon plastic screw top container is appropriate for storage of a broken thermometer to prevent leakage of mercury vapor



5-gallon plastic container with tight fitting lid is appropriate for storage of a broken or breached Universal Waste batteries

Exception: Oil-based finishes (paint, lacquer, stain) are to be left covered in the manufacturers' original containers.

Universal Waste Labeling

UNIVERSAL WASTE	
 University Heights Newark, NJ 07102	Waste Removal Date _____
CHECK ALL THAT APPLY	
<input type="checkbox"/> Battery (ies)	<input type="checkbox"/> Mercury Containing Device
<input type="checkbox"/> Mercury Thermostat(s)	<input type="checkbox"/> Thermometer
<input type="checkbox"/> Lamp(s)	<input type="checkbox"/> Manometer
<input type="checkbox"/> Electronic Device(s)	<input type="checkbox"/> Switches
<input type="checkbox"/> Elemental/ Drained Mercury	<input type="checkbox"/> Gauges
<input type="checkbox"/> Other, Describe : _____	
Principal Investigator _____	Telephone # _____
Lab Manager _____	Email _____
Building _____	Room # _____

No matter which container is selected - All containers of Universal Waste must be properly labeled. Universal Waste labels must be filled out completely – including contact information.

Universal Waste Storage

- Another type of Universal Waste is Used Oil.
- Used Oil may be generated by laboratories when changing vacuum pump oil or by Physical Plant maintenance activities.
- Depending on size, Used Oil may be stored in a variety of closed head, screw top containers appropriate for liquid storage.



1-gallon screw top container



5-gallon screw top container



30-gallon closed head drum



55-gallon closed head drum

Universal Waste Labeling

Used Oil

NJIT
New Jersey Institute
of Technology

Waste Removal Date _____

General Information

Principle Investigator: _____ Telephone: _____

Lab Manager: _____ E-mail: _____

Building: _____ Room #: _____

University Heights, Newark, NJ 07102

No matter which container is selected - All containers of Used Oil must be properly labeled. Used Oil labels must be filled out completely – including contact information.

Universal Waste Labeling

Used Oil



Date _____

General Information

Department: Facilities Services

Telephone: (973) 596-3123

Building/Room:

University Heights, Newark, NJ 07102

UNIVERSAL WASTE



Date _____

CHECK ALL THAT APPLY

- | | |
|---|--|
| <input type="checkbox"/> Battery (ies) | <input type="checkbox"/> Mercury Containing Device |
| <input type="checkbox"/> Mercury Thermostat(s) | <input type="checkbox"/> Thermometer |
| <input type="checkbox"/> Lamp(s) | <input type="checkbox"/> Manometer |
| <input type="checkbox"/> Electronic Device(s) | <input type="checkbox"/> Switches |
| <input type="checkbox"/> Elemental/ Drained Mercury | <input type="checkbox"/> Gauges |
| <input type="checkbox"/> Other, Describe : _____ | |

Department: Facilities Services

Telephone: (973) 596 - 3123

Building/Room:

Department Specific Waste Labels are Available from EHS. These labels have been prepared for the Facilities Services Department.

Universal Waste Accumulation Areas

- Labs and shops should store Universal Waste in their designated waste accumulation area.
- Containers of Used Oil may be placed in the bin labeled flammable with other flammable, ignitable, and combustible materials. Most other types of Universal Waste (e.g., batteries and lamps) are considered toxic.
- Labs usually use small containers to store Universal Waste.
 - Typically 1 quart, 1 gallon, or 5 gallon containers
- Academic shops and Facility Maintenance shops will use larger containers to store Universal Waste
 - Typically 5 gallon, 30 gallon, or 55 gallon containers

Universal Waste Accumulation Areas

Several Universal Waste Accumulation Areas have been established for the storage of Universal Waste at NJIT

- Used Light Tubes: Stored in the basement of Cypress Hall
- Used Oil: Stored in the basement of Faculty Memorial Hall
- Batteries and Ballasts: Stored on the Tiernan Loading Dock
- Mercury Containing Equipment: Stored in the EHS cage on the Tiernan Loading Dock
- Oil Based Finishes: Stored in the Facilities Services Building
- Consumer Electronics: Stored in the Student Mall

Universal Waste Accumulation Areas

- Containers of Universal Waste may be stored on site for up to 1 year.
- Individual containers of Universal Waste should be dated once waste is first placed in the container.
- Removal of Universal waste may be arranged by calling EHS at extension 3059.
- Alternatively, the waste removal request form, found on the EHS website, may be completed, attached to an e-mail, and sent to: healthandsafety@njit.edu
- Similarly, replacement containers may be requested by completing the Waste Container Request Form, attach to an e-mail, and send to: healthandsafety@njit.edu

The Waste Removal Request Form may be completed, saved, and e-mailed to: healthandsafety@njit.edu to facilitate the removal of Universal Waste from NJIT labs and shops.



NJIT WASTE REMOVAL REQUEST FORM

Lab Contact Information	Submittal Date: _____
Building: _____	This date reflects the date waste was submitted to EHS for hazardous waste determination. This date does not represent the end of waste accumulation.
Room: _____	
Principal Investigator/Faculty: _____	
Contact Information: _____	
Special Instructions:	FOR EHS USE ONLY:

- Waste will not be removed unless the following requirements are met:**
- Every waste container should have a NJIT waste label with all contents listed. Every item including water, solvents, and solid waste should be included on waste label.
 - All waste container should be closed, sealed and in good condition.
 - The waste labels are to be filled out completely including lab contact information, full name of all the chemical components and the approximate percentage of each substance if known
 - If known, concentration percentages of each substance should equal 100%.
 - Waste should be stored in designated waste storage area/s only.

Type of Waste									
<input type="checkbox"/>	Chemical	<input type="checkbox"/>	Biological/Medical	<input type="checkbox"/>	Radiological	<input type="checkbox"/>	Acutely Hazardous ¹	<input type="checkbox"/>	Universal
#	Container Type:	Quantity/Size:	State of Contents:	Location of Waste:	Contents:	Hazard Type:			
EX.	Plastic <small>(See NJIT Container Request Form)</small>	1/1 pint	Liquid (Solid/ Liquid)	Under Fume Hood (Please be specific)	Methanol, Water (Please be specific)	Flammable			
1									
2									

¹ <https://www5.njit.edu/environmentalsafety/sites/environmentalsafety/files/Acutely%20Hazardous%20Waste%20%28P-Codes%29.pdf>

The Waste Container Request Form may be completed, saved, and e-mailed to: healthandsafety@njit.edu to facilitate the delivery of replacement containers and labels from EHS.

Lab Contact Information Building: _____ Room: _____ Principal Investigator/Faculty: _____ Contact Information: _____	Submittal Date: _____ This date reflects the date waste was submitted to EHS for hazardous waste determination. This date does not represent the end of waste accumulation.
Special Instructions:	FOR EHS USE ONLY:

Waste Container Request

Please check all that apply. Indicate Size and Quantity needed. Ensure all containers requested are compatible with the waste materials being generated.
 Example: Corrosive Materials should not be stored in Steel drums regardless of concentration.
 Example: Liquids should never be stored in Fiber drums.

Size/Quantity	Size/Quantity	Size/Quantity	Size/Quantity	Size/Quantity	Type/Quantity	Quantity	Size/Quantity	Size/Quantity
1 Pint <u>Quantity Requested</u>	1 Gallon <u>Quantity Requested</u>	5 Gallon <u>Quantity Requested</u>	30 Gallon <u>Quantity Requested</u>	30 Gallon <u>Quantity Requested</u>	30 Gallon <u>Quantity Requested</u>	<u>Quantity Requested</u>	Small <u>Quantity Requested</u>	15 Gallon <u>Quantity Requested</u>
1 Quart <u>Quantity Requested</u>	5 Gallon <u>Quantity Requested</u>				5 Gallon <u>Quantity Requested</u>	*Includes Red BioHazard Bag*	Large <u>Quantity Requested</u>	30 Gallon <u>Quantity Requested</u>
1 Gallon <u>Quantity Requested</u>					Small Ziplock Bag <u>Quantity Requested</u>			
<u>Contents:</u>	<u>Contents:</u> SOLDS ONLY	<u>Contents:</u>	<u>Contents:</u>	<u>Contents:</u>	<u>Contents:</u>	<u>Contents:</u> SOLIDS ONLY	<u>Contents:</u> SOLIDS ONLY	<u>Contents:</u> SOLIDS ONLY



Please check all labels needed and quantity requested

Examples of Universal Waste Management



Improper accumulation and storage of fluorescent light tubes

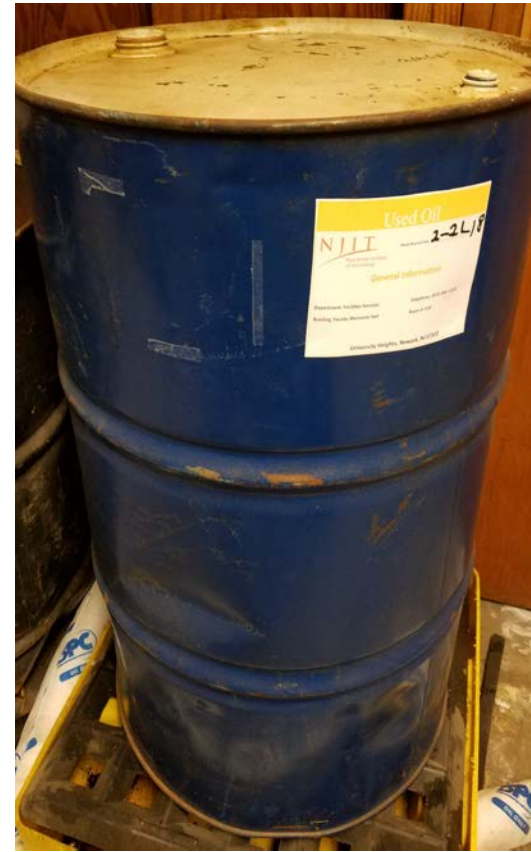


Light tubes properly packaged and labeled as Universal Waste

Universal Waste Management Used Oil Storage - Basement FMH



Unlabeled and Unsealed
Drum of Used Oil



Properly Labeled and
Sealed Drum of Used Oil

Universal Waste Storage Area Cypress Hall - Basement



Properly packaged, labeled, and stored lamps and electronics

**NJIT Environmental Health and Safety
(EHS)
Department**

Contact Us:

**<https://www5.njit.edu/environmentalsafety/>
973-596-3059**

healthandsafety@njit.edu

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