THE UNIVERSITY of NEW ORLEANS
OFFICE OF RESEARCH

Regulated Waste Guidelines

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Purpose

The purpose of this document is to instruct students, faculty, staff, and contractors of the University of New Orleans on how to properly manage all regulated waste in accordance with the university standards as listed in this document below. No chemicals, solvents, paints, batteries, light bulbs, mercury-containing devices, electronics, oil and oily substances, antifreeze, biological samples, etc. may ever be discharged down a sanitary or storm drain or thrown into a landfill waste stream unless specific permission is granted by the UNO Lab Safety Officer. All items listed in this document are regulated under the Environmental Protection Agency (EPA) and/or Department of Environmental Quality (DEQ) to ensure personal safety and community health and welfare.

1. Hazardous Waste

Introduction

Hazardous wastes are identified by the EPA as either: 1. demonstrating a characteristic of a hazardous waste; or 2. being explicitly listed as a hazardous waste. Only personnel trained on the Resource Conservation and Recovery Act (RCRA) of the EPA are able to characterize whether a waste is hazardous or not. Because of this, all UNO personnel are required to treat all laboratory waste as hazardous waste. If a chemical has a Safety Data Sheet (SDS), it will be collected by the university and managed as hazardous waste. This also aligns with the university's waste minimization efforts.

It is important to note that all chemicals must be inventoried to ensure proper storage, care and use, and disposal of each chemical used in the area. Each chemical must have a corresponding SDS used as a reference, and all SDSs must be accessible by all staff in the area. All personnel should consult the SDS before working with any chemical. When a chemical is introduced or removed from use, the inventory must be updated to reflect the changes.

Storage

Stock chemical containers and hazardous waste containers must be stored with the following in mind:

- Near the point of generation (applies to hazardous waste containers only)
- In compatible containers
- In secondary containment (applies to liquid wastes only)
- According to hazard class
- In NFPA and OSHA approved cabinets (applies to flammables and corrosives predominantly)
- In a manner that does not allow for any potential release

All hazardous waste containers must be stored near the point of generation. This means that you should not cross any hallways or enter any doorways to go to the waste accumulation area. The area that hazardous waste containers are stored must be within line of sight from where the wastes are generated, for example, the bench, biosafety cabinet, or chemical fume hood.

Hazardous waste must be stored in containers that are compatible with the contents of the container. For example, acids and bases cannot be stored in metal containers. Light-sensitive solvents may not be stored in clear glass containers, etc. Liquid hazardous wastes should be stored in 1-gallon or 5-gallon containers within secondary containment. Solid hazardous wastes should be stored in 1-gallon or 5-gallon buckets with plastic liners. Questions about container compatibility and mixing different wastes in the same container can be answered by the UNO Lab Safety Officer.

It is important to note that all secondary containment must be able to hold 110% of the volume of all of the containers inside of the secondary container combined. Secondary containers must be compatible with the liquid hazardous waste(s) that are being held within them. For example, you should not use metal containers for corrosives (acids or bases).

All chemicals must be stored according to their hazard class. For reference, use the SDS(s). Flammable materials must be stored in an NFPA and OSHA approved flammable storage cabinet (For example: https://www.globalindustrial.com/g/storage/flammable-osha-cabinets/flammable/global-flammable-cabinets?ref=cat/b/flammable_cabinets). Corrosives (acids and bases) must be stored separately. Corrosives may be stored separately in corrosive cabinets (For example: https://www.globalindustrial.com/c/storage/flammable-osha-cabinets/acid-corrosive). However, purchase of these cabinets is not mandatory, but highly recommended if more than 3 aggregate gallons are present in an area.

As mentioned above, it is mandatory that all liquid hazardous waste containers be stored in secondary containment. This is especially important if hazardous waste containers are stored in a fume hood, biosafety cabinet, on the floor, or near a sink.

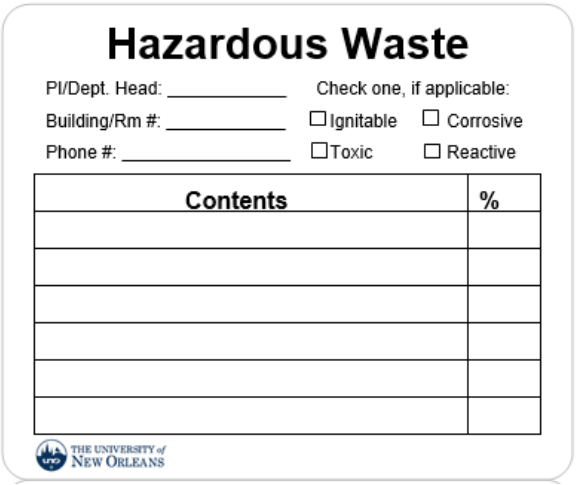
All containers must have the lids securely in place at all times. There are no exceptions to this. Funnels must be removed immediately after adding waste to the container.

Labeling

Hazardous waste containers must be labeled with the following at all times:

- The UNO Hazardous Waste Label
- All applicable GHS pictograms (found on the SDS)

The UNO Hazardous Waste Label can be found at


Hazardous Waste

PI/Dept. Head: _____ Check one, if applicable:

Building/Rm #: _____ ☐ Ignitable ☐ Corrosive

Phone #: _____ ☐ Toxic ☐ Reactive

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https://www.uno.edu/research/funding/compliance under Regulated Waste. These labels can be printed out on Avery Label #94215 and affixed, or printed on regular paper and affixed with clear packing tape. All labels must be written legibly in English. If the label becomes illegible at any point due to poor pouring practices, smudging, etc. the label must immediately be replaced. If you are collecting waste in a container that previously held product, the entire product label must be defaced before the container can be used for hazardous waste accumulation.

Applicable GHS pictograms can be found on the SDS or label of the product before it was considered waste. Print these out, in color, and affix them in a method that they will not fall off or become illegible with time. Printable copies of GHS pictograms can be found at https://www.uno.edu/research/funding/compliance under Regulated Waste, or stickers of GHS pictograms can also be purchased online, for example at https://www.amazon.com/Pictogram-Compliant-Laminated-Environment-Exclamation/dp/B00MOWJLTI.

It is important to note that these labeling requirements apply once the first drop or piece of waste enters the container.

Disposal

Hazardous waste containers can be stored in the lab until a total of 55 gallons is reached. However, labs should move waste down to the central accumulation area twice a month, at a minimum, using a cart. The central accumulation area is located on the loading dock between the Science Building and the Geology & Psychology building.

Please contact the UNO Laboratory Safety Officer at labsafety@uno.edu for further access instructions.

Please take one of the very small hazardous waste labels with a line for the date, which is provided in the room in the shelves to the left, fill out the date you are putting the waste container in the hazardous waste room, and adhere the very small hazardous waste label to the waste container.

2. Biohazardous Waste

Introduction

Biohazardous waste is also sometimes referred to as medical waste or biomedical waste. It is mandatory that all personnel working with or potentially working with biohazardous waste has bloodborne pathogen training upon hire and annually. Biohazardous waste is any waste that contains infectious materials or potentially infectious materials, including, but not limited to: blood, cells, tissues, sputum, vomit, feces, urine, secretions, etc. Needles, syringes, razors, and other sharps with biological materials on them are also considered biohazardous waste and must be stored separately from other biohazardous waste as listed below.

Storage

Biohazardous waste has several different storage requirements based on the type of waste:

- Solid waste
- Liquid waste
- Sharps (needles, syringes, razor blades, etc.)

Solid waste is any non-sharp material that contacts human or animal specimens. This includes napkins, towels, linens, centrifuge tubes, pipettes, personal protective equipment (PPE), Petri dishes, etc. Solid waste must be stored in a biohazardous cardboard box with a biohazardous liner. The boxes must have a lid that sits upon the top of the open box. These items may be purchased through the UNO-approved vendor.

Liquid waste is bodily fluids or liquids that may contain infectious materials. Liquid waste must be stored in a sturdy container compatible with the contents.

Sharps (needles, syringes, razor blades, etc.) must be stored in a specific biohazardous sharps container. These may vary in size. Examples can be found at: https://store.stericycle.com/store/biohazard-waste-containers/disposable-sharps-containers/

All biohazardous waste containers must remain closed at all times. Sharps containers may be slightly open as long as the containers are being used in accordance to the manufacturer's guidelines.

Labeling

All biohazardous waste containers must be labeled with:

- The word "Biohazardous"
- The biohazard trefoil

In addition, all biohazardous waste containers must be orange or red.

Biohazard labels must be purchased by the labs. Here is an example: https://www.uline.com/Product/Detail/S-3336/DOT-Labels-and-Placards/DOT-Labels-Biohazard-4-x-4?pricode=WB0928&gadtype=pla&id=S-3336&gclid=Cj0KCQjwu6fzBRC6ARIsAJUwa2RSTyXsSR6WKDN_8aZliZQRX5_KkudZQXJ_HxAj2vwb1DKzWqdID10aAktPEALw_wcB&gclsrc=aw.ds

Disposal

Biohazardous waste containers must be closed completely before they can be picked up by the vendor. Ensure the boxes of solid biohazardous waste have had the inner lining goose-necked and taped. Sharps containers must be closed and locked in accordance with the manufacturer's guidelines. Sometimes biohazardous waste must be autoclaved before disposal. To schedule a pick-up, contact the UNO Environmental Health & Safety Office. Maintain documentation in the Lab Safety Binder.

3. Radioactive Waste

Introduction

Radioactive waste is potentially dangerous in a manner that is inconsistent with chemical or biological waste. Radioactivity cannot be seen, smelled, or heard. It is very important

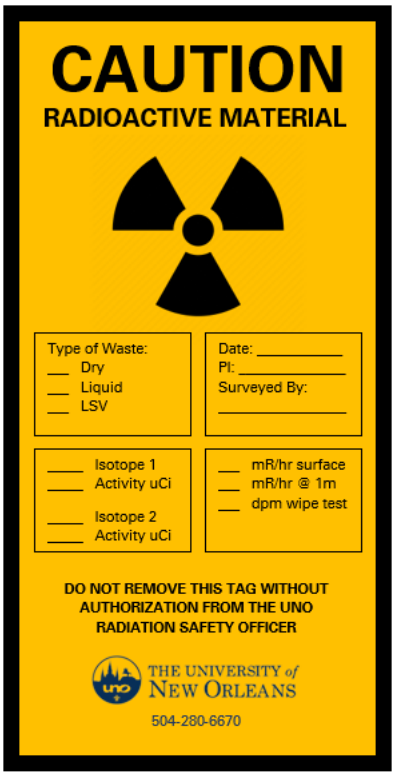
to consult with the UNO Lab Safety Officer when working with radioactive materials (RAM). Specific shielding is required for different types of ionization. Time, distance, and shielding are the most important factors with working with RAM.

Storage

Liquid radioactive wastes should be stored 1-gallon or 5-gallon containers within secondary containment. Solid radioactive wastes should be stored in 1-gallon or 5-gallon buckets with a liner. Do not mix radioactive waste with chemical waste unless specific permission has been approved by the UNO Lab Safety Officer.

Radioactive waste containers, whether solid or liquid, must be shielded at all times while in the waste storage area. Containers must remain closed at all times.

Surveys with a Geiger counter must be conducted weekly, at a minimum, and documented. Documentation must be kept in the Lab Safety Binder and sent to the UNO Lab Safety Officer quarterly.



Labeling

Radioactive waste containers must be labeled with the UNO Radioactive Waste Label found at https://www.uno.edu/research/funding/compliance under Regulated Waste. Labels must be filled out completely before the waste can be collected for disposal.

Disposal

Ensure the UNO Radioactive Waste Tag is filled out completely before requesting a pick-up. Request RAM waste pick-ups through the UNO Environmental Health & Safety Office.

4. Universal Waste

Introduction

The EPA recognized that certain types of hazardous waste are found in high quantities throughout nearly all industries across the US. They decided to make a special set of regulations for these items, which include the following:

- Lamps (Fluorescent tubes, commonly known as light bulbs)
- Batteries (Lead Acid, Nickel Cadmium, Lithium Ion, Nickel Metal Hydride, etc.)
- Mercury-Containing Equipment (Thermostats, Switches, Thermometers, Barometers, etc.)
- Pesticides (Virkon, RoundUp, etc.)
- Antifreeze

Each of these must be managed and labeled in a unique way. Although not every type of battery and lamp is regulated by the EPA, the university policy is to recycle all types of batteries and lamps.

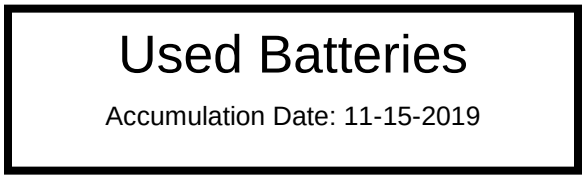
Storage

Each of the four types of universal waste must be stored in sturdy containers with secure lids. No universal waste container may be stored on-site for more than a year. All containers must be stored indoors.

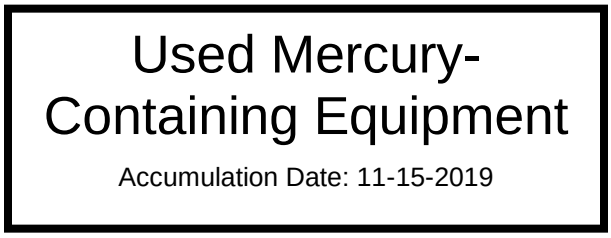
Labeling

Containers of used lamps must be labeled with the words "Used Lamps" and the date the first lamp was inserted into the container. The most practical situation for labeling boxes of lamps is: A box that holds 20 new fluorescent tubes (lamps) is purchased because a lamp has burnt out. John Doe takes out the burnt lamp from the light fixture. John then takes out one of the lamps from this box and installs it in the fixture. John then puts the burnt-out lamp into the box with the remaining 19 new lamps. This box, even though holding one used and 19 new lamps, must immediately be labeled "Used Lamps" and the date. John has to use the rest of the lamps within one year of the date listed on the box. When the box is full of used lamps, they can be collected for disposal.

Containers of used batteries must be labeled with the words "Used Batteries" and the date the first battery was inserted into the container.



Containers of used mercury-containing equipment must be labeled with the words "Used Mercury-Containing Equipment" and the date the first piece of equipment was inserted into the container.



Containers of used pesticides or empty containers that previously held pesticide must be labeled with the words "Waste Pesticides" and the date the pesticide was considered waste. No pesticide or empty container that previously held pesticide may be recycled or put into the landfill waste stream.

Containers of used antifreeze must be labeled with the words “Used Antifreeze” and the date the antifreeze was considered waste.

Disposal

All containers holding universal wastes must be collected and recycled within one year of the first item being placed in the container(s). Contact the UNO Environmental Health and Safety Office for disposal.

5. Other Common Regulated Waste Streams

Ethidium Bromide Gels

Ethidium bromide gels are commonly found in labs and are considered non-hazardous according to the EPA. The university wants to collect these as part of our waste minimization efforts. Collect ethidium bromide gels in a 5-gallon plastic bucket with a liner. Follow the guidelines for storage, labeling, and disposal under the Hazardous Waste section of this document.

Broken Glass

Broken glass that is contaminated with biological materials must be disposed of in accordance with Biohazardous Sharps section of this document. Broken glass that is not contaminated with biological materials must be stored in a broken glass box such as this one: https://www.southernlabware.com/glass-disposal-box-with-handles-floor-model-27x12x12-6-cs.html?utm_source=google_shopping&gclid=CjwKCAjwo9rtBRAdEiwA_WXcFvuNlAU9QhawZaCYPOYF1spKwOqMKBYem_3pxuFNbd-zY5gLEakG0RoCwfwQAvD_BwE

It is important to note that you must never reach inside a broken glass box even if you dropped something in there by mistake.

Once the box is ¾ full, secure the lid with tape and take it to the nearest landfill dumpster for disposal.

Used Oil

Used oil has a separate set of regulations under the EPA. Used oil must be stored in closed, compatible containers and within secondary containment. The containers must say “Used Oil”. Schedule a pick-up with the UNO Lab Safety Officer when the container is full or otherwise necessary. There is no time limit for used oil storage. If the container of

used oil exceeds 55 gallons, contact the UNO Lab Safety Officer, as new requirements will apply.

Photo Processing Chemicals & Film

Certain labs use photo processing to receive images of their gels. Manual photo processing is also used in the Fine Arts department. Contact the UNO Lab Safety Officer if your area conducts photo processing so an assessment can be conducted.

Photo processing chemicals must never be discharged down the drain in the concentrated forms. Once diluted from use, they can be discharged only if a silver recovery filter is in use.

Silver recovery filters must be changed annually, at a minimum.

Used and scrap film contain silver and must be collected for disposal as hazardous waste. Refer to the Hazardous Waste section of this document to manage used and scrap film correctly.

Electronic Waste

Electronic wastes contain heavy metals such as iron, copper, aluminum, silver, gold, copper, etc. and are therefore regulated under the EPA. Electronic waste includes:

- Data-bearing equipment (computers, printers, cell phones, desk phones, etc.)
- Non-data-equipment (electronic ballasts, microwaves, cords, chargers, monitors, mouses, keyboards, etc.)

Containers of data-bearing and non-data-bearing electronic waste must be labeled with the words “Electronic Waste for Recycle”. Schedule a pick-up with the UNO Office of Property Control Management when the container is full or otherwise necessary. There is no time limit for electronic waste storage.

Ballasts

There are four types of ballasts:

- Electronic ballasts
- Battery ballasts
- PCB ballasts
- Non-PCB ballasts

Electronic ballasts are the most common type of ballasts. These can be identified by the words “Electronic Ballast” somewhere on the label. These must be managed as electronic waste. For a pick-up, put in a Work Order with UNO Facility Services.

Battery ballasts can be identified by the words “Battery Ballast”, “NiCd Battery”, etc. on the label. They must be managed as Used Batteries (under Universal Waste) listed above in this document.

PCB ballasts are not manufactured anymore, but can sometimes be found in older buildings. If a PCB ballast is found, place it in a container and manage it as Hazardous Waste listed above in this document.

Non-PCB ballasts have none of the other identifying words listed above on the labels. These can be managed as scrap metal.

Tires

Used tires cannot be stored in excess (over 20) on-site at any given time. Contact UNO Facilities Services for disposal.

6. Contacts

UNO Police Department:
unopd@uno.edu
Emergency: 504-280-6666
Office: 504-280-6371
www.uno.edu/upd/

UNO Environmental Health & Safety Office:
darichar@uno.edu
24/7: 504-400-6817; Work: 504-280-6670
www.uno.edu/ehso/

UNO Lab Safety Officer:
labsafety@uno.edu
504-280-4759
www.uno.edu/research

UNO Office of Property Control Management:
pcm@uno.edu
504-280-7299
www.uno.edu/pcm/

UNO Facility Services:
fsadmin@uno.edu
Emergency: donald.wintertonii@sodexo.com
504-280-6675
www.uno.edu/facility-services

UNO Radiation Safety Officer:
labsafety@uno.edu
504-280-4759
www.uno.edu/research