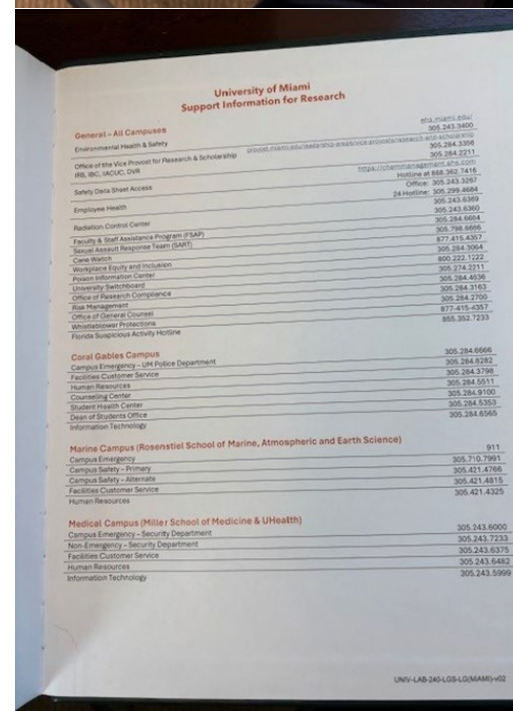
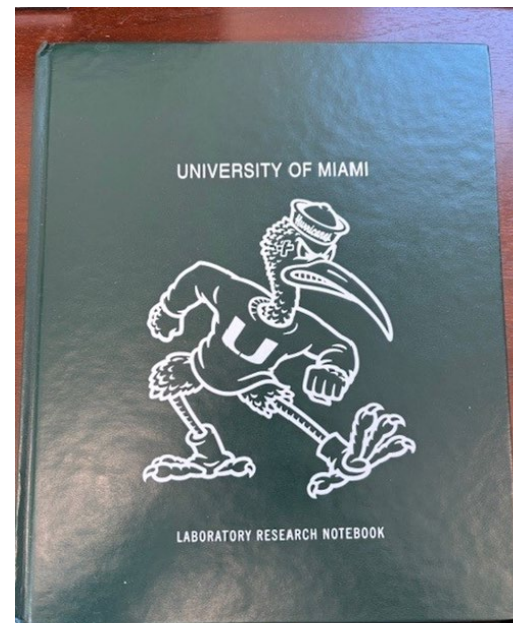


FEBRUARY 10TH, 2025

GIVEAWAY!

- Branded Laboratory Research Notebook
- Sebastian on front cover
- Hardcover
- 232 pages
- Brought to you by:
 - Office of Environmental Health & Safety
 - Office of the Vice Provost for Research & Scholarship

UNIVERSITY OF MIAMI



UNV-LAB-240-028-02(MIAMI)-02



Brian Cumbie, CHMM; EHS Hazmat Manager

HAZARDOUS WASTE AND BIOWASTE MANAGEMENT

February 2025



UNIVERSITY
OF MIAMI

PURPOSE AND KEY TAKEAWAYS

Purpose of the presentation

- Training refresher for the management of Hazardous/Biomedical Waste
- Provide information on new procedures
- Allow time for Q&A

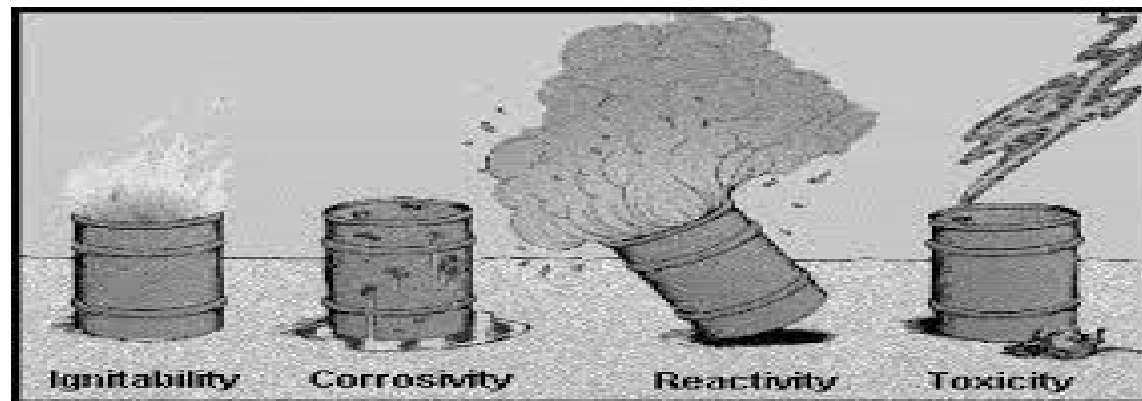
Key takeaways

- Understand the requirements for managing Hazardous/Biomedical waste
- Apply the information learned today in your laboratories
- Know where to go for additional information

WHAT IS A "HAZARDOUS WASTE"?

Simply defined, a hazardous waste is a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment.

- **Ignitable:** Liquids with a flash point less than 60 degrees C (140 degrees F)
- **Corrosivity:** pH less than or equal to 2 or greater than or equal to 12.5.
- **Reactivity:** Wastes that are hazardous due to the reactivity characteristic, which may be unstable under normal conditions, may react with water, may give off toxic gases, and may be capable of detonation or explosion under normal conditions or when heated.
- **Toxicity:** Chemicals that are toxic when ingested or absorbed.



HAZARDOUS WASTE STORAGE AND DISPOSAL

- **Hazardous waste shall be labeled with the contents of the container, the words “Hazardous Waste”, and have an indication of the hazard.**
 - **Hazard statement, i.e Ignitable/Corrosive/Reactive/Toxic**
 - **GHS pictogram**
 - **DOT placard**
 - **NFPA Diamond**
 - **Plain Language**



HAZARDOUS WASTE STORAGE AND DISPOSAL (CONTINUED)

- **Containers must be kept closed, except when adding waste.**
- **Containers have to be compatible with the waste and in good condition.**
- **Do not accumulate more than 20 gallons of liquid waste at a time. Contact EHS if additional storage is needed.**
- **Compliant labels can be found on the EHS Environmental Protection and Hazardous Materials tab:**
<https://ehs.miami.edu/services/hazardous-materials/index.html>

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HAZARDOUS WASTE

Building: _____ Room: _____
Contact Name: _____
Phone: _____ Email: _____
Chemical Composition: _____ %

PRIMARY HAZARD:

Request collection using [Chemical Waste Disposal Form](#).
Questions? EHSChemicalWaste@med.miami.edu

HAZARDOUS WASTE STORAGE AND DISPOSAL (CONTINUED)



SATELLITE ACCUMULATION AREA

- Labs shall identify a Satellite Accumulation Area (SAA) where hazardous waste is to be stored.
- All chemical and hazardous wastes are to be stored in this area.
- Secondary containment required.
- Chemicals are to be segregated by hazards.
- Training is provided by EHS Hazmat.

SATELLITE ACCUMULATION AREA (SAA)

This SAA is an area strictly assigned to store **HAZARDOUS WASTE** and **MUST BE** kept as clean as possible as an integral area of the laboratory. Biohazardous and/or radioactive waste must be stored separately according to University policy and procedures. To ensure proper and efficient disposal, please abide by the following guidelines:

1. Waste containers must be kept closed at all times, except when pouring waste. **DO NOT** leave the funnel inside of the container when not in use.
2. The exterior of the container must be free of any chemical contamination. **DO NOT** overfill the container. Best practice is to call for a pickup when the container reaches 80% full and start collecting waste in a new container.
3. Liquid waste must be separated from solid waste and segregated by chemical hazard class, such as, 1) Acids (corrosives), 2) Bases, 3) Halogenated, 4) Non-halogenated, 5) Oxidizers, and 6) Reactives.
4. Date peroxide formers upon receipt and when opened. Dispose of chemical within six months of the open date or one year of the receipt date.
5. All waste containers must be properly labeled as to their contents along with the words "**HAZARDOUS WASTE**" and an indication of the hazard. Please contact a Hazmat team representative if you have questions on labeling.
6. Chemical waste **MUST NOT** be poured into the sink or trash. **DO NOT** allow any chemical waste to evaporate in any fume hood.
7. **DO NOT** accumulate excessive waste. Avoid storing more than 20 gallons of waste. Complete and submit a chemical waste disposal form for removal.
8. Designate a person(s) responsible for the waste stored in this SAA.
9. To expedite the disposal process, please follow the instructions in the CHEMICAL WASTE DISPOSAL FORM. This form and the procedures can be found at the EHS web site (www.miami.edu/ehs) under Hazardous Materials.
10. EHS **CANNOT** accept radiological or DEA regulated wastes. Radioactive wastes must be collected by Radiation Control Center (305-243-6360). DEA waste must be transferred and disposed of per your license. Contact Dr. Kapsalis (305-243-2311) for DEA review.

UM Hazardous Materials Contacts

EHSChemicalWaste@med.miami.edu Fax 305-243-3272

P.I.	Lab Name Contact (Primary)	Lab Name Contact (Secondary)
Phone #	Phone #	Phone #
HAZMAT MANAGER Brian Cumbie 813-778-2255	HAZMAT TECH Brian Reding 305-582-7281	HAZMAT TECH Yesser (Abraham) Somoza 786-260-9662



In case
of fire
call 911

Medical
Campus
Security
(305) 243-6000

Coral Gables
Campus
Security
(305) 284-6666

RSMAES
Campus
Security
(305) 421-4766

State
Warning
Point
(800) 320-0519

HAZARDOUS WASTE DISPOSAL

- **The form can be found at <https://ehs.miami.edu/services/hazardous-materials/index.html>.**
- **Provide a cell phone contact, so EHS staff can contact you with any questions.**
- **To request waste pickup, submit a copy of the Chemical Waste Disposal Form to EHSChemicalWaste@med.miami.edu.**
- **Never dispose of chemicals down the sink or in the trash.**

UNIVERSITY OF MIAMI CHEMICAL WASTE DISPOSAL FORM

Department: _____ Contact Person: _____
 P.I.: _____ Phone Number: _____
 I have a Satellite Accumulation Area I need an SAA
 Location: Campus: _____ Building: _____ Room #: _____
 Pickup Comments: _____

For questions, contact Environmental Health and Safety at 305-243-3400

Instructions:

- Label all containers.
- Label waste containers with the proper chemical name (no chemical formulas or trade names).
- If the contents are a mixed waste, label container with the two main constituents.
- Always place used chemicals in the appropriate, compatible container.
- For Unknown chemicals, annotate on inventory as either unknown solid or liquid with the amount.
- Complete form and either submit by E-mail to:
 - EHSChemicalWaste@med.miami.edu
 - or fax to the EH&S office (Fax # 305-243-3272).

C= Corrosive		F= Flammable		O= Oxidizer		W= Air/Water Reactive		T= Toxic	
Hazard Category	Chemical	Containers	x	Size	Units	Liquid	Solid		
F	Xylene / Alcohol	1	x	5	gallons	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
1)			x			<input type="checkbox"/>	<input type="checkbox"/>		
2)			x			<input type="checkbox"/>	<input type="checkbox"/>		
3)			x			<input type="checkbox"/>	<input type="checkbox"/>		
4)			x			<input type="checkbox"/>	<input type="checkbox"/>		
5)			x			<input type="checkbox"/>	<input type="checkbox"/>		
6)			x			<input type="checkbox"/>	<input type="checkbox"/>		
7)			x			<input type="checkbox"/>	<input type="checkbox"/>		
8)			x			<input type="checkbox"/>	<input type="checkbox"/>		
9)			x			<input type="checkbox"/>	<input type="checkbox"/>		
10)			x			<input type="checkbox"/>	<input type="checkbox"/>		

Date Picked-up: _____

EHS - (11/21)

Authorization Signature: _____

Release Signature: _____

EHS Signature: _____

CHEMICAL WASTE DISPOSAL

- EHS will pick up any other chemical waste that needs to be disposed of.
- Make sure the container is labeled with the contents, closed, and in good condition.
- Place containers in the SAA for pick up.
- Request pickup using the Chemical Waste Disposal Form.

UNIVERSITY OF MIAMI CHEMICAL WASTE DISPOSAL FORM

Department: _____ Contact Person: _____
 P.I.: _____ Phone Number: _____
 I have a Satellite Accumulation Area I need an SAA
 Location: Campus: _____ Building: _____ Room #: _____
 Pickup Comments: _____

For questions, contact Environmental Health and Safety at 305-243-3400

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Hazard Category	Chemical	Containers	x	Size	Units	Liquid	Solid		
F	Xylene / Alcohol	1	x	5	gallons	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
1)			x			<input type="checkbox"/>	<input type="checkbox"/>		
2)			x			<input type="checkbox"/>	<input type="checkbox"/>		
3)			x			<input type="checkbox"/>	<input type="checkbox"/>		
4)			x			<input type="checkbox"/>	<input type="checkbox"/>		
5)			x			<input type="checkbox"/>	<input type="checkbox"/>		
6)			x			<input type="checkbox"/>	<input type="checkbox"/>		
7)			x			<input type="checkbox"/>	<input type="checkbox"/>		
8)			x			<input type="checkbox"/>	<input type="checkbox"/>		
9)			x			<input type="checkbox"/>	<input type="checkbox"/>		
10)			x			<input type="checkbox"/>	<input type="checkbox"/>		

Date Picked-up: _____

EHS - (11/21)

Authorization Signature: _____

Release Signature: _____

EHS Signature: _____

EMPTY CONTAINER DISPOSAL

- **Empty containers (except for P-listed waste containers) can be disposed of in the trash.**
 - The EHS chemical inventory template will highlight p-listed chemicals for your convenience.
- **The container must be empty. Less than 1 inch or 3% by weight of the capacity of the container.**
- **All labels on the container need to be removed or defaced.**
- **The cap of the container shall be removed.**
- **Mark the container with “Empty” so custodial staff knows that it is empty.**
- **Place in the trash for pickup.**



SPILLS

- **Labs should have appropriate spill kits for the chemicals that they are working with.**
- **Spills must be cleaned up immediately as soon as they are identified.**
- **If a spill is too large or dangerous to be cleaned up by laboratory staff, the following steps should be taken:**
 - **Evacuate from the immediate area.**
 - **If there are injuries notify 911, otherwise notify EHS Hazmat to assist with cleanup.**
 - **Close doors and secure area in reasonable and safe manor.**
 - **Remain nearby at a safe distance to provide information to responders.**

BIOMEDICAL WASTE MANAGEMENT

- **Biomedical Waste , except for sharps, shall be placed in red biomedical waste bags that are stamped with ASTM 1709 and 1922.**
- **Outer containers should be leak and puncture resistant, and have the Biohazard symbol on the container.**
- **Containers need to be labeled with the lab number, address, and city. An Avery label can be used.**
- **A table of approved bags from several vendors is located on the EHS Environmental Protection and Hazardous Materials page <https://ehs.miami.edu/services/hazardous-materials/index.html>**

Container	Size	VWR	Grainger	Uline	Fastenal
Red Bags	10 Gal	89092-410	5KRC2	S-12984	F2400XR
Red Bags	20 Gal	89092-414	39P017	S-20849	G3600XR
Red Bags	5 Gal	89092-448	3UAF4		F1800XR
Red Bags	1 Gal	89092-444	3UAF2		
Boxes	Floor	56617-807	9TXM5		7021460
Boxes	Bench Top	56617-810	8UK88		7021459
Sharps Containers	8 Gal Floor	19001-010	3UTE9		
Sharps Containers	2 Gal Bench	19001-008	3UTE7	S-22218	

BIOMEDICAL WASTE MANAGEMENT (CONTINUED)

- **Biomedical waste bags shall not be overfilled.**
- **Waste can only be accumulated for 30 days.**
- **The bags should be closed with either a gooseneck or overhand knot.**
- **Sharps can only be placed in an appropriate sharps container.**
- **A best management practice is to spray the outside of a closed waste container or bag with a 10% solution of bleach before removing it from your lab.**



OVERHAND KNOT TYING DEMONSTRATION



GOOSENECK KNOT TYING DEMONSTRATION



BIOMEDICAL WASTE DISPOSAL

- **For labs on the Medical Campus, labs are to take biomedical waste to the grey or red biomedical waste labeled bin found on their floor.**
- **On the Gables and RSMAES Campuses, labs need to complete a Chemical Waste Disposal Form to request a pickup by EHS.**
- **The form can be found at <https://ehs.miami.edu/services/hazardous-materials/index.html>**
- **To request waste pickup, submit a signed copy of the Chemical Waste Disposal Form to EHSChemicalWaste@med.miami.edu.**

EMERGENCY CONTACTS

Brian Cumbie, Hazmat Manager

- 813-778-2255 Cell
- 305-243-3268 Office
- bx933@miami.edu

Brian Reding, Safety Specialist

- 305-582-7281 Cell
- breiding@miami.edu

Abraham Samoza, Safety Specialist

- 786-260-9662 Cell
- yas5@miami.edu

Thank you!!!