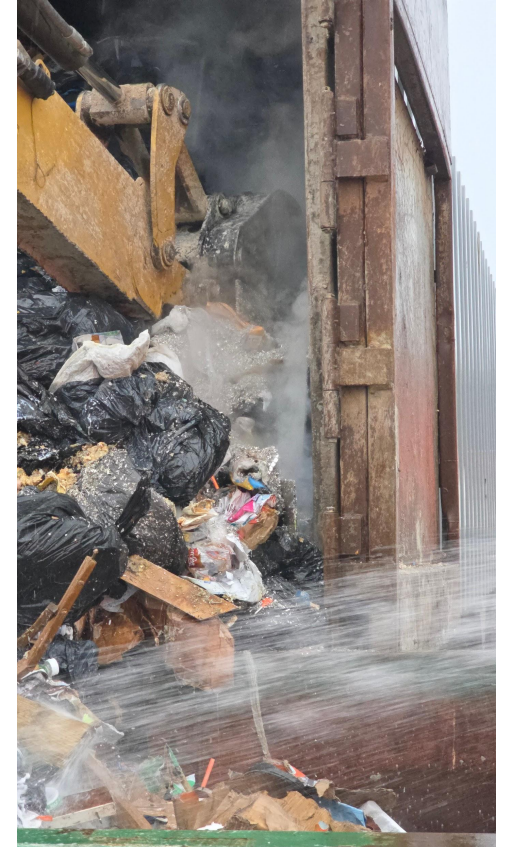


What do I do with?



Oops... - Improper Waste Disposal



[UPDATE: Cliff Drive in Houghton reopens after waste management truck fire](#)



Michigan Tech

How can I get rid of

Universal waste

Batteries, lamps,
electronics, Computers, phones,
Mercury containing devices,
non-empty aerosol cans

Lab waste

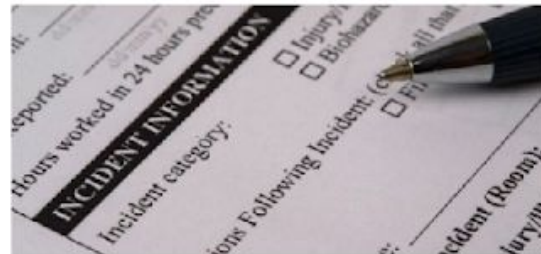
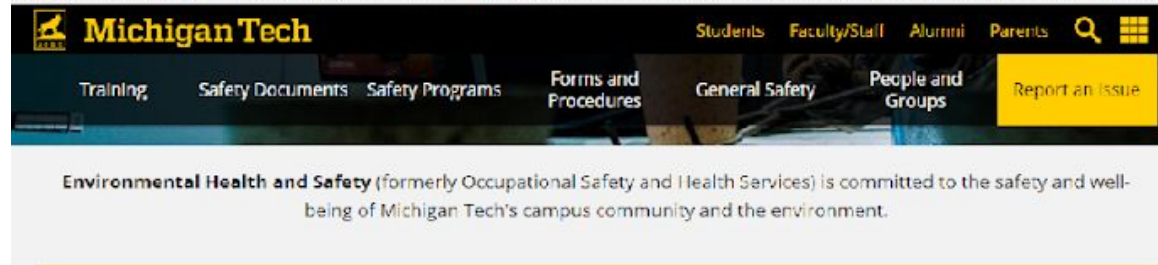
- Biohazard
- Hazardous chemical waste
- Non RCRA waste
- Broken glasses
- Biomedical Sharps/Needles
- Empty Reagent bottles

Often Asked -

Metal shaving/scrap
Gas cylinder
Oil
Paint (Latex and non-latex)
Legacy waste (chemical or non)
Scientific Instruments
Pharmaceuticals



How to contact EHS



Report an Injury



Near Misses and Safety Concerns



Request Waste Pickup



Campus Emergency Guide

www.mtu.edu/ehs
Or 7-2118



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Is it a Universal Waste?

- Is it a
 - **battery** (car, recyclable, or dry cell?)
 - **lamp** (fluorescent or other mercury containing)
 - **"E-waste,"** (computer equipment, office electronics)
 - **mercury-containing device** (thermostat, thermometer)
 - **some pesticides**
 - **non-empty aerosol spray can**
- If "Yes" we manage as a **Universal Waste**



lamprecycling.veoliaes.com



Universal Wastes collection

- Must be labeled “Universal Waste [bulbs; batteries, etc.]”
- Must be dated when first item is added; must be processed within 1 year of that date
- Must be in a closed container that prevents release

UNIVERSAL WASTE
CONTENTS _____

ACCUMULATION START DATE _____
SHIPPER _____
ADDRESS _____
CITY, STATE, ZIP _____

bradyid.com



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It is Universal waste now what?

Batteries, lamps, electronics
(not computers) - Contact
Facilities Management (FM)

Computers, phones - Contact
Information Technology (IT)

**Mercury containing devices,
non-empty aerosol cans** -
Contact wastepickup-l@mtu.edu

If in doubt - Contact ehs-help



Is it a Hazardous Waste?

- **Hazardous Waste** are defined under the **Resource Conservation and Recovery Act** (aka "RCRA")
- The university is responsible for hazardous wastes generated on campus, from "**Cradle to Grave**"

Examples include:

- Flammable wastes
- Corrosive wastes
- Reactive wastes
- Toxic wastes
- Wastes listed in designated EPA lists



Hazardous Waste Collection and Disposal Procedures



Introduction to Waste Disposal

Most wastes generated in the laboratories and shops located on campus are prohibited from disposal in the regular trash or down the drain. Many of these wastes are regulated under the federal Resource Conservation and Recovery Act (RCRA).

The term hazardous waste is defined under RCRA as solids, liquids, and gases that exhibit certain characteristics or are specifically listed in the rules. Hazardous waste is regulated under a "cradle to grave" concept, meaning that the waste is tracked via written records from the time it becomes a waste, and that ownership remains with the generator forever. Therefore, the best method

More Information

[Waste Chemical Collection Request Form](#)

[The Four L's of Collecting Hazardous Waste](#)

[Waste Descriptions](#)

[Discarded Commercial Chemical Products](#)

[Hazardous Waste Label - Large](#)

[Hazardous Waste Label - Small](#)

[Hazardous Waste Label - Small \(four per page\)](#)

Emergency: Dial 911



The 4 L's of Managing Hazardous Waste in the laboratory or shop

- 1. Labels** – specific wording including “Hazardous Waste” the chemical composition/EPA codes, and hazards
- 2. Lids** – containers must be closed except when adding or removing wastes
- 3. Leaks** – containers must be compatible with contents and in good condition; leaking containers must be replaced
- 4. Location** – containers must stay near the point of generation (**must** be in the same room)



What about empty containers?

- Empty containers
 - **If** a container < 119 gallons (of non-acute waste*) has been emptied **as intended** (poured, sprayed, pumped, scooped, etc.) **AND** there is less than one inch (or 3%) left in the container (whichever is less)
 - *P waste containers are an exception
- **Then considered empty** and not subject to hazardous waste rules
- Mark container “Empty” or “MT” and cross out label
- Rinse, if possible
- Place in sealed opaque bag or box
- Place in dumpster



It's not “hazardous waste,” so now what?

- Even if the waste passed all the tests in previous slides:
- If the waste is a **human or environmental hazard**, not characterized as hazardous waste
- Collect and manage as **nonRCRA*** waste
- Our hazardous waste haulers will help us dispose of these wastes



*Resource Conservation and Recovery Act

**Liquid Industrial By-products (used oil, antifreeze)
[remove??]



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Legacy waste (chemical or non)
Scientific Instruments
Pharmaceuticals



Reducing the impact of waste disposal

- **Safely:**
 - Become familiar with and follow all rules on **labeling waste containers**
 - **Do not mixed incompatible wastes**
 - **Request wastes be picked up** when the container is full or you are no longer accumulating that waste



Reducing the impact of waste disposal



- **Ethically and legally:**
 - Dispose of wastes **following the appropriate rules**
 - Only Environmental Health and Safety may contract for the **disposal of hazardous waste**
 - All disposal and recycling companies **must be approved by** Environmental Health and Safety



Reducing the impact of waste disposal

- **Financially**
 - The best way to reduce waste costs is **when planning your project**
 - Evaluate and **order only the amount of chemicals you need** for your project.
 - A significant portion of our disposal costs are related to **disposing of unused “excess” leftover chemicals**



Picture credits

- Michigan Guide to Environmental, Health, and Safety Regulations (June 2016)
www.michigan.gov/deq/0,4561,7-135-3308-15820--,00.html
- EPA paint filter test
www.epa.gov/sites/production/files/2015-12/documents/9095b_0.pdf
- www.mtu.edu/ehs
- www.plwsa.org/
- lamprecycling.veoliaes.com/ordering/usrecyclepak-order-form?pid=81
- All other photos, Jeff Lewin

