NEUROBIOLOGY SAFETY COMMITTEE MEETING

March 25th 2019

Wastewater Discharge Prohibitions Guidance

Help us meet our regulatory requirements by preventing materials with these characteristics from entering laboratory sinks.

Federal or State Regulated Hazardous Waste

Examples: Reactive, Flammable/Ignitable* (FP < 140°F) , Corrosive (pH < 2.0 or > 12.5), and/or Toxic (P or U EPA Listed) Materials

*aqueous solutions with >50% water that are less than 24% alcohol by volume are exempt

Mixtures containing controlled substances

Non-hazardous solutions that exceed MWRA discharge limits

(e.g., Mercury and other Heavy Metals, Oil and Grease > 300 mg/L, PCBs, solids that could clog piping such as pipette tips, Pesticides, (Para)formaldehyde)

Odiferous Chemicals and Dyes

(e.g., Mercaptans or thiols)

Radioactive materials that exceed allowable limits

Biohazardous waste that has not been suitably disinfected

nm

Nanoparticles and Materials Suspected to Bioaccumulate

Due to potential toxicity to the environment and/or human health hazards, if Section 2.2 of the SDS contains any of the following hazard statements, the material is generally prohibited from drain disposal and should be collected as waste. Contact your Lab Safety Advisor for proper disposal guidance.

H300	Fatal if swallowed	H361	Suspected of damaging fertility or the unborn child
H310	Fatal in contact with skin	H400	Very toxic to aquatic life
H330	Fatal if inhaled	H401	Toxic to aquatic life
H340	May cause genetic defects	H402	Harmful to aquatic life
H341	Suspected of causing genetic defects	H410	Very toxic to aquatic life with long lasting effects
H350	May cause cancer	H411	Toxic to aquatic life with long lasting effects
H351	Suspected of causing cancer	H412	Harmful to aquatic life with long lasting effects
H360	May damage fertility or the unborn child	H413	May cause long lasting harmful effects to aquatic life

See the EH&S website for additional information

https://www.ehs.harvard.edu/programs/wastewater-management

Rev. 1 12/10/2018

Chemical Amnesty 2019

1. Please, Please, Please….prepare in advance for this event
2. This is a great time to go through old bench spaces, abandoned chemicals from previous researchers, peoples benches that contain legacy materials
3. Take a look in the back of your flammables and corrosives cabinets
4. Definitely follow my pink cap rule – take a look at your dry chemical storage
5. Call me over! Lets take a look through your chemicals!
6. Can get rid of any/all chemicals, solutions, unknowns within the lab without having to tag or submit requests
7. April 29th- May 3rd

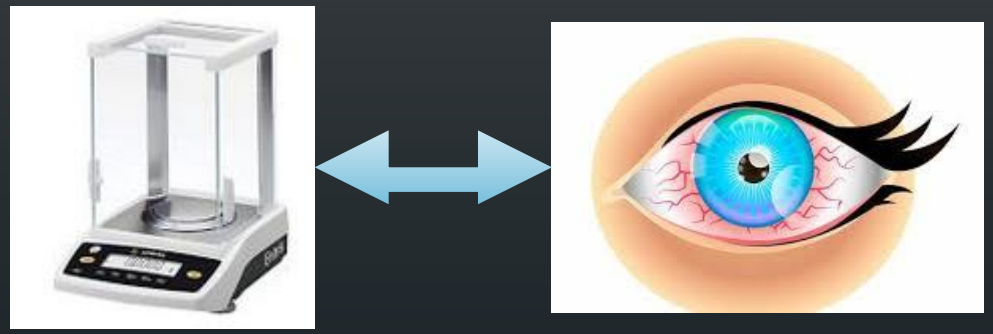
Everyone participating in the Amnesty will need to put red neon stickers on their items (EHS provides) and submit a registration spreadsheet 2 weeks before the event.

****NOTE – The amnesty will not happen again for another 2 years

Universal Waste Accumulation Area Signage


METTLER TOLEDO

Incident



- Chemical exposure while weighing out ammonium persulfate
  - Researcher's eyes felt irritated after performing the procedure
  - Researcher unsure of means of exposure
  - Electrostatic issues?
    - High degree of electrostatic issues experienced during weighing are believed to have led to the exposure

Researcher's Account

A description all to familiar to anyone who has done even a fair amount of weighing

The goal was to weigh out 66mg of ammonium persulfate

- A few attempts were made using weighing paper but this proved difficult because the scale wouldn't tare. The read out was drifting and wouldn't stabilize. After this, attempts were then made using plastic weighing dishes instead of weigh paper. The compound could be seen spreading out on the surface of the plastic due to the electrostatic interaction.
- During this entire process the researcher indicated he changed out his gloves more than a couple of times. He also indicated having wiped down the table and inner scale surfaces. The researcher is confident that he never touched his eyes at any point during the procedure.
- Ocular discomfort was experienced soon after the procedure and the researcher sought medical treatment.


Staticmaster

Po - 210


caution


ZEROSTAT 3 MILTY


SPI
SPIWestek.com
WORKSTATION
IONIZER
BALANCE
ON
RATE
POSITIVE
NEGATIVE
Made in America
Desco Industries

Polonium Containing Anti-Static Devices

- Relies on alpha particles to remove static charge
- Limited useful life
  - $t_{1/2}$ = 138 days
- Spent devices **CANNOT BE THROWN AWAY** and need to be returned to the manufacturer

Polonium Anti-Static Devices

- You don't need a permit to possess/use these devices!
- Notify RSS when you purchase/receive these (or if you've got any) so that we can track it in our database
  - We are required by the state to know where radioactive material is on campus
- Let RSS know if the device is damaged or if you have any questions about radiation safety
- Notify RSS when you ship the device back to the manufacturer at the end of its life so that we can make sure it is removed from MA RCP database

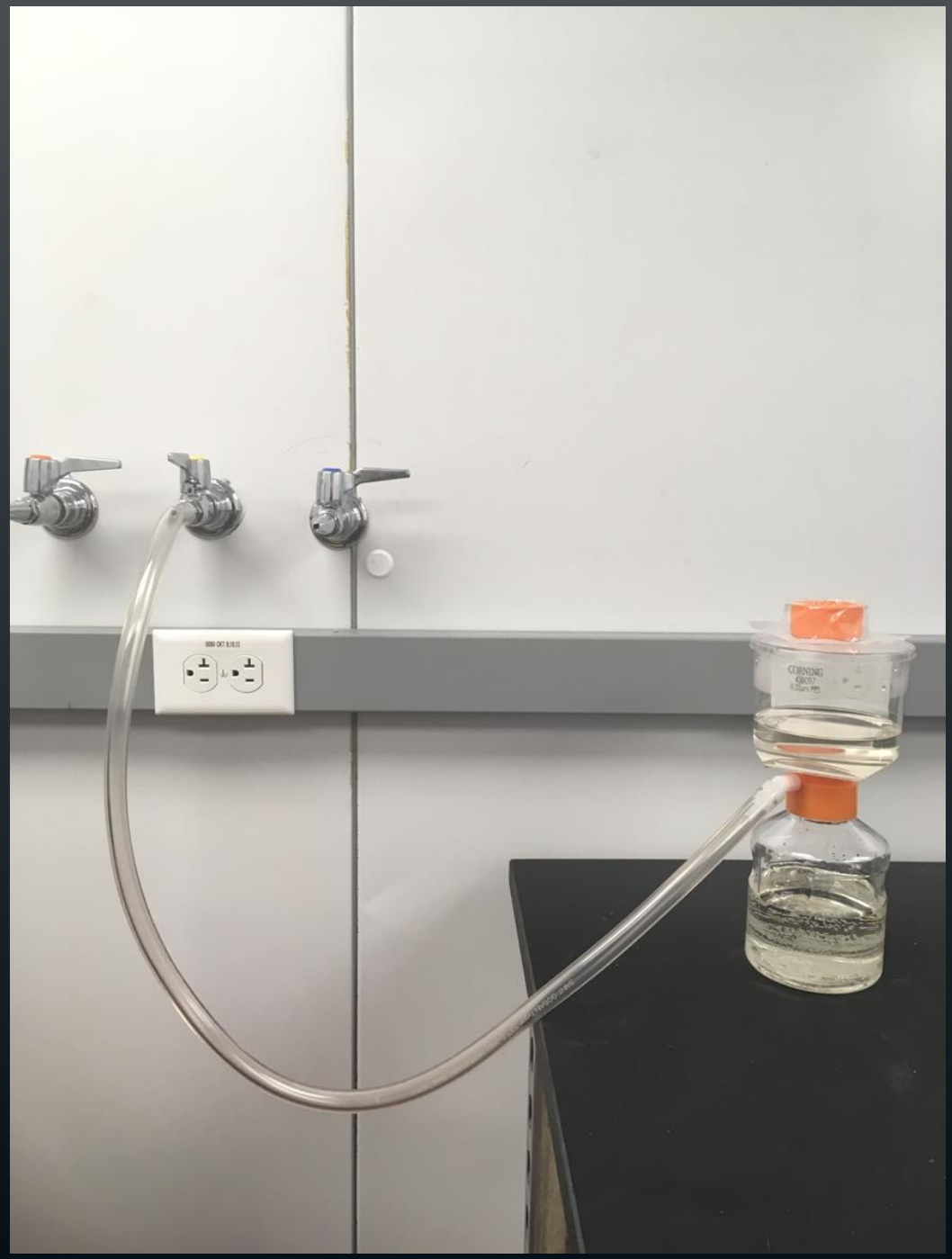
RSS Contact - Radiation_Safety@Harvard.edu

In addition to the use of Anti-Static Devices…

- Prior to Weighing
  - Wipe down the scale and surrounding area with a pre-moistened paper towel and allow surfaces to dry.
  - Have pre-moistened paper towels at the ready to clean up spills and wipe residue from scoopulas and other contaminated items.

- After Weighing
  - Be sure to wipe down the scale and the surrounding area with pre-moistened paper towels.

What's wrong with this picture?



VWR Tip Box Recycling

- Being used currently in a Genetics lab
- $200 for 5 boxes and this includes the shipping costs
- They turn them into park benches

Where is the gel not supposed to go??

Critters in the Lab

- If you notice critters in your lab trash, biowaste, regular trash please contact 2-1901 or the facilities email to have them send EHS Pest to investigate

Why you need to know….

Flies (or other critters) can mechanically acquire and transmit any nasties (biological, radiological, chemical)

What you can do….

The best defense is to keep the lid down - on petri dishes and the like, biowaste containers, regular trash, etc. and to keep sink drains clean.

LABORATORY EMERGENCY RESPONSE EXERCISES

Includes biological, chemical, medical and fire related interactive Emergency Response Exercises

Scenario 1:

Location: Laboratory Common Area

Time: 9:55am

A researcher is setting up an experiment and goes to the acids cabinet to retrieve a bottle of hydrochloric acid. When the researcher opens the cabinet they notice a white vapor/mist and a repellent odor.

What are the Hazards?

How do you determine if you have had an exposure?

How do you protect yourself from further exposure?

Where to go if you believe you have been exposed?

What can you do about the mist/vapor/smell?

Do you reopen the cabinet to inspect?

Who do you call?

What do you say?

What's expected of your group after you call for assistance?

What potentially went wrong?

Reporting requirements?

Scenario 2:

Location: Laboratory

Time: 7:00pm

A researcher is working in the fume hood when 250mL container of glutaraldehyde slips out of the researchers hand and shatters on the fume hood surface.

What are the Hazards?

How do you determine if you have had an exposure?

How do you protect yourself from further exposure?

Where to go if you believe you have been exposed?

Can you clean up this spill?

How would you clean up this spill?

Would you call someone?

What would you say?

What's expected of your group after you call for assistance?

Reporting requirements?