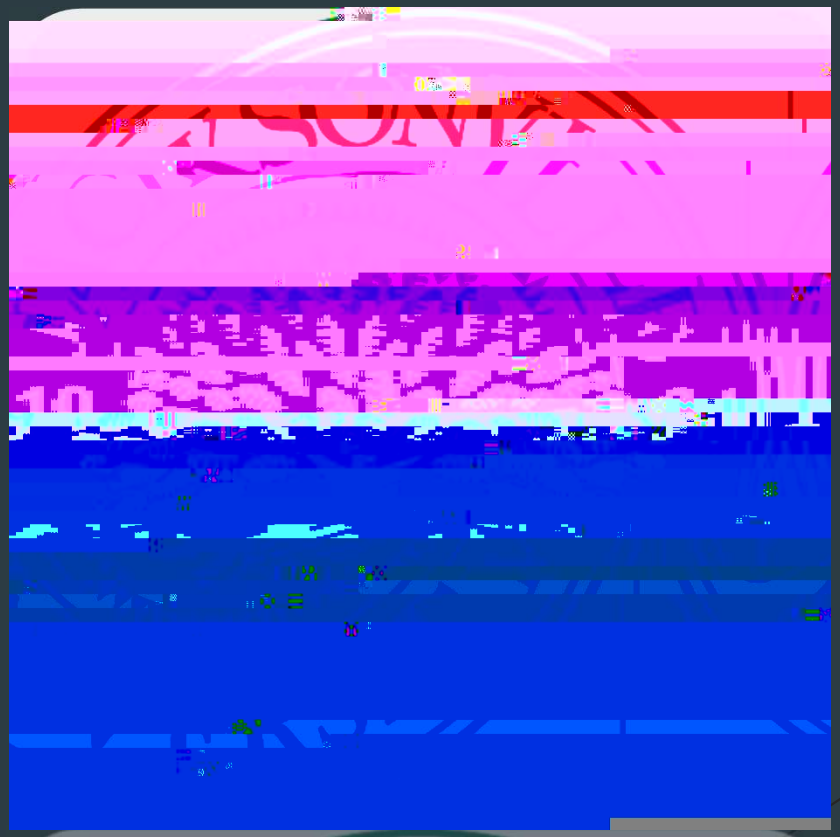
Jacksonville University's Laboratory Safety and Chemical Hygiene Training



V4 – August 2023

Purpose

This training has been developed to provide an overview of safety policies and procedures that have been developed by Jacksonville University for safe attendance and performance in science laboratories on campus

Topics covered in this training will include:

Who should take this...

This training is required for all...

But I did it last year...

All individuals involved with scientific laboratory instruction/research, must take this training on an annual basis.

If an undergraduate student joins a scientific lab in the middle of the semester, they must first complete this training before starting any research activities.

If a work study student is hired in the middle of the semester, they must first complete this training before starting duties.

How do I get my certificate?

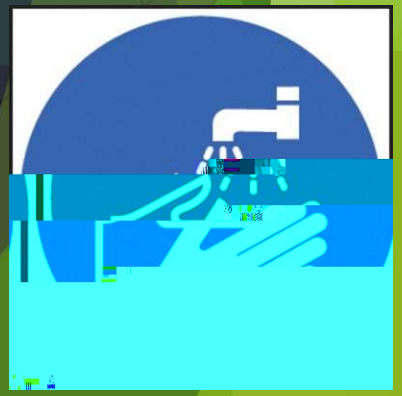
After reviewing all material regarding laboratory safety and chemical hygiene, you are required to take a short quiz, which is found on the blackboard site.

All individuals who pass will receive a certificate from either Carla or Tabitha. This certificate should be saved for your personal records.

Additional Training

Laboratory Safety: General Practices

When working in the laboratory environment, there are some basic safety practices that all faculty, staff, and students should engage in:



Hazard Communication: SDS

Safety Data Sheets (SDS)

Copies of the SDS for each hazardous material used in a laboratory are accessible for all faculty/staff/students in the location where the material is used/stored

Hazard Communication: Reading SDS

Safety Data Sheets (SDS)

Hazard Communication: Reading SDS

Section 7 – Handling and Storage

Section 8 – Exposure Control/PPE

Section 9 – Physical/Chemical Properties

Section 10 – Stability/Reactivity

Section 11 – Toxicology

PPE: Clothing

The following are a list of guidelines to assist in recognizing the proper clothing for wet-chemistry lab activities:

PPE: Lab Coats

PPE: Lab Coats & Students

Faculty should include lab coats and other student supplied PPE in their adoptions each semester.

Student lab coats are available in the bookstore and faculty should inform students of whether a disposable coat can be used or if a cloth coat is required.

Students may turn in grossly contaminated coats or coats which cannot be decontaminated for disposal.

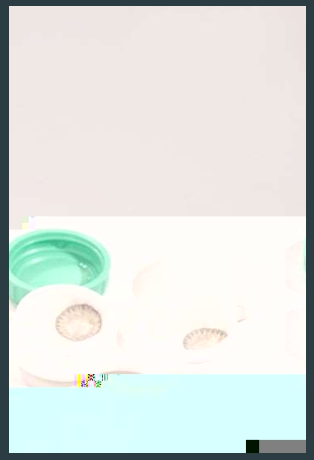
PPE: Aprons

PPE: Eye Protection

The following table gives guidance for the proper selection of safety eyewear in the laboratory setting:

PPE: Regarding Contact Lenses

Staff/faculty/students are permitted to wear contact lenses in the lab, provided they adhere to the following instructions:

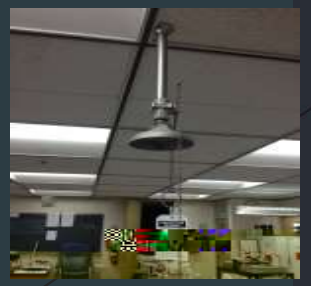


PPE: Gloves

Laboratory Safety: Emergency Response

Prevention is the best response, so be prepared!

Be sure to ALWAYS go over lab safety and emergency response with students at the start of each term and when deemed necessary during the term



Laboratory Safety: Emergency Response (Fire)

- Sound the fire alarm.
- Only attempt to extinguish small

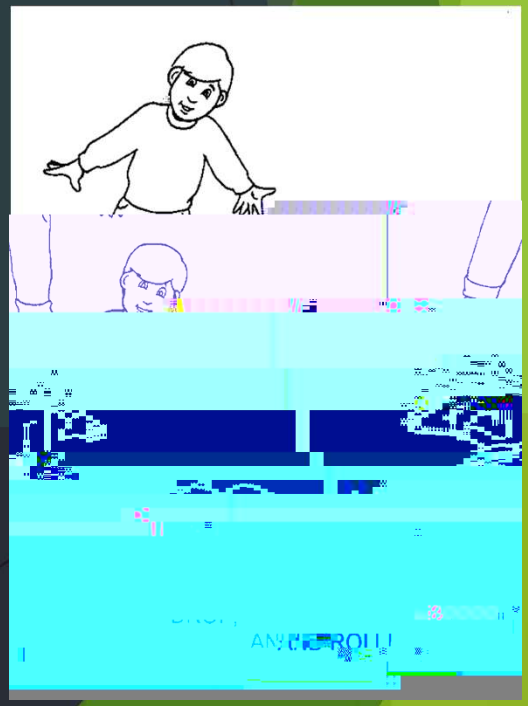
Laboratory Safety: Emergency Response (Clothing Fire)

If clothing catches on fire, STOP, DROP and ROLL on the floor while covering your face with your hands to smother the fire.

Others in the area can use a fire blanket to assist with smothering the flames. Be cautious of creating a smokestack effect and directing flames toward the persons face.

DO NOT RUN to the safety shower, exit, or fire blanket as running will make the fire worse.

Be prepared and know how you will respond!



Laboratory Safety: Blocking Emergency Egress

Anyone teaching in Reid 105? Please DO NOT block the emergency egress point…

Whether working in a lab or lecture area, emergency exits need to remain unobstructed

Blocking an emergency egress point is a violation of policies from the National Fire Prevention Association (NFPA) and the Occupational Health and Safety Administration (OSHA) and presents a significant issue that can lead to loss of life in an emergency situation.

Laboratory Safety: Biological Pandemic Response

In the event of an outbreak or defined pandemic by campus or outside authorities (such as COVID-19), the following additional guidelines should be followed for laboratory participation

Laboratory Safety: Exposure Response

_____

_____

Laboratory Safety: Post-Incident Evaluation

Something to Consider...

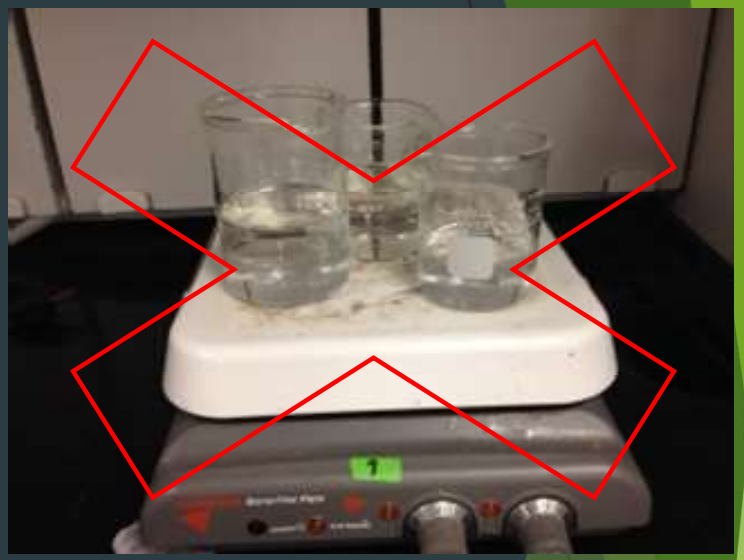
As an instructor or graduate student/student work-t

Chemical Hygiene: Chemical Storage

- Once a chemical is received by the University it must be properly stored in relation to its condition, state, or reactivity.
  - Inspect for leaky, damaged, or deteriorating containers
    - Report faulty containers to the Lab Manager immediately
  - Store all chemicals on shelves with a ½" lip, when possible
  - Determine if specialized storage in a flammable, corrosive, or other vented cabinet is required
    - Use chemical's SDS for guidance; if unsure, seek out Lab Manager for help
    - Segregate incompatible chemicals on storage shelves or lab benches (if in-use)
  - Use secondary containment whenever possible
  - Avoid storing chemicals above eye level whenever feasible

Chemical Hygiene: Chemical Storage

VS.



Chemical Hygiene – Labeling

For the safety of all working in or around hazardous materials and chemicals in University laboratories, all non-primary containers for utilizing or storing hazardous material or research samples are required to have the following information on the container itself (either directly or with the use of permanent marker and labelling tape):

Chemical Hygiene: Fume Hoods

Engineering Controls – Fume Hoods

Chemical Hygiene -

Engineering Controls – Biosafety Cabs

Key Safe Work Practices for using Biosafety Cabinets

Chemical Hygiene: Waste Determination

There are 5 main disposal processes in most laboratories:

Regular Trash:

Chemical Hygiene: Hazardous Waste Disposal

_____: Does this look like the appropriate container for this waste methanol?

This is a 3L container

There is only about 200ml of actual waste in this 3L container…

_____: NO. Please be mindful of this situation in your labs and ask your Lab Manager for assistance to avoid this type of error in the future.

Chemical Hygiene: Biohazardous Waste

Any waste that represents or comes in contact with an infectious agent or material that has the potential to transmit illness or disease is considered biohazardous waste

Red Bag Waste (box)

Chemical Hygiene: Biohazardous Waste

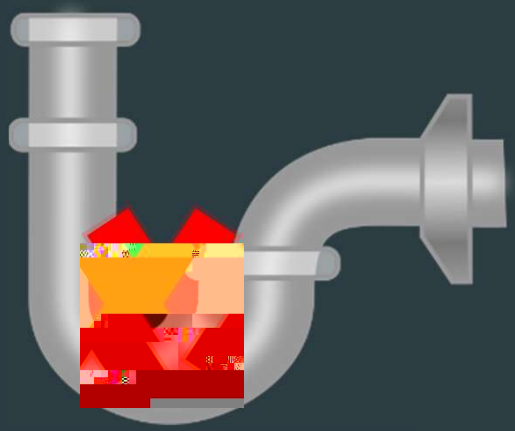
Red Sharps Containers

Chemical Hygiene: Transporting Biohazardous Waste

Chemical Hygiene: Dissection Specimens

Chemical Hygiene: Drain Disposal

Materials _____ from drain disposal include, but are not limited to:



Chemical Hygiene - Review

Now that you've got some of the basic approaches down, always remember to consider and address the following before attempting to handle any chemical or biological materials in a laboratory:

- **Be familiar with the hazards and standard operating procedures used with the chemical/biological material**
- **Always use the recommended & proper engineering controls**
- **Consult the SDS, if necessary, and look for proper GHS warning labels**
- **Always wear appropriate PPE**
- **Practice good housekeeping**

Questions?

Please contact the following individuals with any questions or concerns:

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