LABORATORY SAFETY QUICK-REFERENCE GUIDE

February 2023 Edition

Use this Quick-Reference Guide to answer common questions regarding laboratory safety

In Case of Emergency:
Tampa: Call 911 or Direct Police Line, (813) 974-2628
St. Pete: Call 911 or Direct Police Line, (727) 873-4444
Sarasota: Call 911 or Direct Police Line, (941) 487-4210

Health & Safety Contact Information:
Environmental Health and Safety (EH&S): (813) 974-4036 | Research Integrity and Compliance (RIC): (813) 974-5638

Building Address:

_____

Building Name and Room Number:

_____

UNIVERSITY OF SOUTH FLORIDA

Environmental Health and Safety
4202 E. Fowler Ave. OPM 100
Tampa, FL 33620
(813) 974-4036
http://www.usf.edu/ehs/

What are the USF Requirements for Chemical Inventory Management?

- The USF Chemical Hygiene Plan requires a complete inventory of all chemicals in a lab. This inventory must be kept and updated each year. In case of an emergency, this information is provided to first responders as needed, so it is important that it is accurate.
- The laboratory's principal investigator or their designee is responsible for maintaining the inventory using USF's online inventory tracking system, Chematix.
- If you are a new principal investigator, fill out a Chematix Access Request Form to be given access to Chematix. EH&S will set up a time to record and upload your inventory into Chematix. New chemicals that are delivered to your Central Receiving area will be entered into Chematix by a receiver. Check with your department for specific instructions. **As chemical bottles are emptied it is the lab's responsibility to remove them from Chematix.**
- Additional training on the use of Chematix is available by request and online.

Questions? Call Environmental Health & Safety at (813) 974-4036 or visit www.usf.edu/ehs

What are the requirements for managing universal waste and scrap metal?

Waste rechargeable batteries, mercury-containing equipment, lamps, and aerosol cans are hazardous and cannot be disposed as regular trash. Examples include:

Batteries*	Mercury Containing	Lamps	Aerosol Cans
Lithium Cadmium Lead acid Car batteries	Thermometers Barometers Blood pressure cuffs Thermostats	Fluorescent High intensity discharge Neon Mercury vapor High pressure sodium metal halide	Damaged Leaking

* Alkaline batteries can be disposed of with regular trash, however there is an alkaline battery recycling program at each of the campuses.

Questions?

Tampa Campus: Call (813) 974-2500 St. Pete Campus: Call (727) 873-4135

Sarasota-Manatee Campus: Call (941) 359-4530

Sharps Waste

- Needles and needle-syringe units (whether infectious or not) are biomedical waste and must be disposed of in red sharps containers. Do not recap needles.
- The following may be placed into the regular trash if not contaminated with biomedical waste and are packaged to prevent sharp points or edges from protruding through a regular trash bag. The following items may also be placed in the Broken Glass Box.
  - Non-infectious pipettes, tubes, tubing or other glass or plastic containers.
  - Non-infectious scalpels, razors, glass or plastic (e.g. centrifuge tubes, microcentrifuge or Eppendorf tubes, cuvettes and capped tubes).

Broken Glass

- Broken glass must be placed in a designated container consisting of a cardboard box lined with a plastic bag and labeled "Broken Glass".
- A full broken glass box should be sealed securely with tape, labeled "Trash," and placed next to a regular trash container for pickup by Custodial Services.

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What is classified as biomedical waste?

- Any solid or liquid waste which may present a threat of infection to humans.
- Blood and body fluids (excluding urine, feces, vomit, saliva, sweat, tears and sputum).
- Animals, animal and human parts/tissues/blood that contain human disease-causing agents.
- Used absorbent materials such as bandages, gauze, or sponges which are saturated with blood or body fluids.
- Non-absorbent items visibly contaminated with body fluids (i.e. plastic, vinyl, latex, rubber, glass devices).
- Needles and needle-syringe units (whether infectious or not) (do not recap needles).
- Scalpels, razor blades, hard plastic or glass contaminated with tissues, blood, blood products, or body fluids.

Disposal of liquid biomedical waste

- Liquid biomedical waste (such as bacterial cultures or tissue culture wastes that do not contain chemicals) must be treated with bleach or an approved chemical germicide or autoclaved before being poured down the drain.

Biomedical waste removal

- USF's biomedical waste service provider removes waste from designated areas. Contact EH&S for information on how to set up biomedical waste pick ups.

Biomedical waste training

- All individuals handling biomedical waste must receive Biomedical Waste Training on an annual basis.

Questions? Call Environmental Health & Safety at (813) 974-4036 or visit www.usf.edu/ehs

How do we manage hazardous waste?

All chemical waste must be collected and disposed as hazardous waste through EH&S.

Satellite Accumulation Area (SAA)

- Designate an SAA for hazardous waste storage using an SAA label (your lab may have more than one).
- Waste must be segregated by hazard class (flammables, corrosives, reactives, or toxics).
- Waste containers must be labeled with the words "Hazardous Waste", a list of the contents, and an indication of the hazard(s) such as ignitable, toxic, corrosive, and/or reactive.
  - Complete and attach a hazardous waste tag to the container when waste is first added to meet these requirements.
- Secondary containment is recommended.
- A maximum of 55 gallons of hazardous waste or 1 quart acutely hazardous (P-listed) waste is allowed in the SAA.
- Waste containers must be closed except when adding, removing, or consolidating waste.
- Empty chemical containers (with the exception of containers that held P-listed chemicals, which must be disposed of through EH&S) can be put into the regular trash if their labels have been removed or defaced. Write "Empty" or "Trash" on the containers.
- Use Chematix to request waste containers and tags from EH&S free of charge. The sizes available are: 10L and 20L containers for liquid waste, and 1 gallon and 5 gallon buckets for solid waste. You can reuse empty chemical bottles for waste as long as they are compatible with the waste being stored. Do NOT use food or drink containers to store chemical waste.

Hazardous Waste Training

- All individuals handling hazardous waste must receive Hazardous Waste Awareness and Handling training on an annual basis.

Questions? Call Environmental Health & Safety at (813) 974-4036 or visit www.usf.edu/ehs

How do I register for EH&S Training?

- EH&S offers all required lab training online through Canvas, USF's web-based learning management system, or via live remote sessions. Look under the "Training" tab on the EH&S website to register.
- The USF Chemical Hygiene Plan requires all principal investigators, faculty, staff, students, and volunteers to complete EH&S Laboratory Safety Training before beginning work in the lab. This course is offered in either synchronous or asynchronous formats.
- EH&S Hazardous Waste and/or Biomedical Waste training must be completed each year. The Biomedical Waste training is required only if your lab produces biomedical waste.

Laboratory-Specific Training

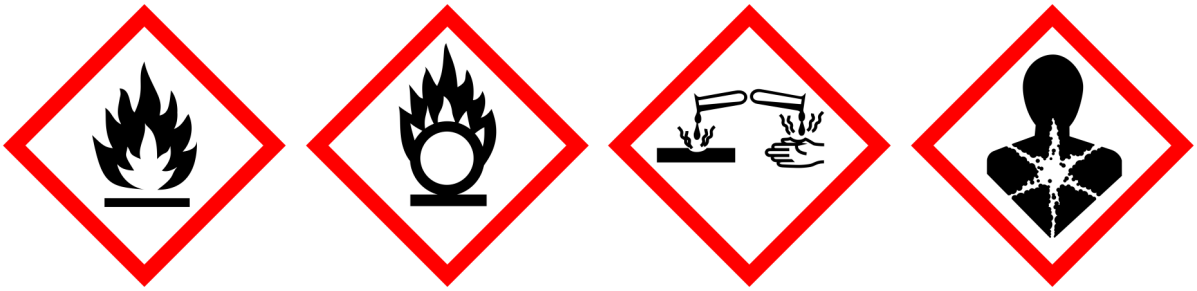
- You must receive Lab-Specific Training from your supervisor. This must include the location and use of safety equipment (emergency eyewash and shower, spill and first aid kits, fire extinguisher and alarm), personal protective equipment, how to access Safety Data Sheets (SDSs), the physical and health hazards of chemicals in the lab, and the use of research equipment for the lab in which you are working.

NOTE: Additional training is required when laboratories use recombinant DNA, infectious agents, select agents, biological toxins, lasers, X-rays, radioisotopes, and/or radiation producing machines. Contact Research Integrity and Compliance at (813) 974-5638 for more information.

Questions? Call Environmental Health & Safety at (813) 974-4036 or visit www.usf.edu/ehs

Safety Data Sheets (SDSs)

- SDSs must be available for all hazardous materials present in your laboratory.
- SDSs can be in hard copy or electronic format, as long as all lab personnel know where they are and can access them if needed.
- SDSs are widely available online through an internet search, through Chematix, or by contacting the chemical manufacturer and/or vendor directly.
- SDSs are prepared in accordance with the Globally Harmonized System and symbols used include:



FLAMMABLE **OXIDIZER** **CORROSIVE** **HEALTH HAZARD**

Standard Operating Procedures (SOPs)

- Each principal investigator (PI)/ laboratory manager must prepare written Standard Operating Procedures (SOPs) for laboratory activities involving hazardous chemicals or equipment.
- SOPs can be procedure or process specific (ex. distillations, reactions, synthesis); chemical specific (ex. hydrofluoric acid, formaldehyde, benzene); hazard class specific (ex. acids, bases, flammables); or equipment specific (ex. autoclave, tile saw, drill press).
- Examples of SOPs and templates are available on the EH&S website.

Questions? Call Environmental Health & Safety at (813) 974-4036 or visit www.usf.edu/ehs/

What do I do if there is a spill?

Evaluate the Spill

- All spills or releases of hazardous and/or regulated materials, other than small spills easily handled by personnel at the location, must be immediately reported to EH&S.
- Call EH&S for help if there is inadequate ventilation, spill clean-up materials are not available, or you are uncomfortable cleaning up the spill.

Small Spill Cleanup

- Consult the SDS and wear proper protective equipment.
- Surround and cover the spill with an absorbent material.
- Wait until spilled material is absorbed, and then collect the absorbent using a broom and dustpan.
- Place saturated absorbent material in a hazardous waste container that is labeled with a description of its contents and request a pickup using Chematix.
- Report all spills to your supervisor and EH&S.
- Replenish your spill kit supplies.

Incident Reporting

- Report all incidents, near misses, or unsafe conditions to EH&S using the Consolidated Injury/ Illness Reporting Form on the EH&S website under the “Reporting” tab.

Mercury Spill

- Isolate the area and immediately call EH&S for cleanup.
- Consider replacing mercury thermometers with mercury-free thermometers.

Workers’ Compensation

- Employees and official volunteers are eligible for Workers’ Compensation coverage.
- Employees must report all injuries or illnesses to their supervisor or department designee immediately.
- Supervisors call AmeriSys at 1-800-455-2079 to report the injury or illness. Except in cases of emergency, the injured or ill employee must be present with the supervisor when the injury or illness is reported.
- Over the telephone, AmeriSys will assess the employee’s medical needs and refer the injured/ ill employee to a medical facility as appropriate.
- Within 24 hours, complete the Consolidated Injury/Illness Reporting Form.
- Take prompt action to correct any safety hazards.

*Questions? Call Environmental Health & Safety at (813) 974-4036 or visit www.usf.edu/*ehs*/*

How do I set up my new lab?

All Laboratories

- Complete a Lab Registration Form.
- Read and comply with regulations outlined in the USF Chemical Hygiene Plan.
- Ensure that all personnel have completed EH&S Laboratory Safety Training.
- Ensure SOPs for hazardous chemicals and equipment are written and available.
- Ensure new workers know Incident Reporting and Workers' Compensation procedures.

Laboratories with Chemicals

- Submit a Chematix Access Request Form to view and maintain the chemical inventory.
- Ensure everyone has access to SDSs.
- Provide appropriate storage and labeling for all chemicals.

Laboratories with Biologicals

- All personnel must complete Research Integrity and Compliance (RIC) Biosafety training and EH&S Biomedical Waste training. (RIC, 974-5638)
- All research involving recombinant DNA, infections or select agents, and biological toxins must be registered with RIC.

Laboratories with Lasers, X-Rays, or Radioactive Materials

- Register class 3B and 4 lasers with USF Laser Safety Office (LSO, 974-5638).
- Submit an application for authorization to use radioactive material to the USF Radiation Safety Office (RSO, 974-5638).
- All personnel must complete RIC Laser Safety Training, Radiation Safety Training, and/or Research Safety X-Ray Fundamentals.
- Read and comply with regulations outlined in the USF Radiation Safety and/or X-Ray Safety Manuals.

Laboratories conducting Field Work

- Refer to the USF Field Safety Guide for information on the Boating Safety Program and the Scientific Diving Program, as well as other information concerning travel abroad and special hazards related to field work.

Laboratories with Animal or Human Subjects

- Contact the USF IACUC Coordinator at 974-0954 for information on animal work.
- Contact the USF IRB at 974-8553 for information on work with human subjects.

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PPE in a Laboratory

PPE must be available to all lab personnel. It is intended to minimize exposure or injury. Consult the SDS to learn more about PPE for specific chemicals.

Safety Eyewear

Safety glasses with side shields offer protection against flying debris. If splashing may occur, use safety goggles or a face shield in combination with safety goggles. Prescription safety eyewear is an option; however, contact lenses are allowed during work with hazardous chemicals provided suitable eye protection is worn and written guidelines and a hazard assessment are in place. UV light and laser users require special safety eyewear.

Shoes and Long Pants

Wear shoes that completely cover the toes, heel, top and bottom of foot. Sandals and any other footwear that exposes parts of the feet should not be worn in the lab. Wear long pants or other garments that cover the body from the waist down.

Gloves

Use gloves when handling sharp, hazardous, hot, or cold materials. There is no one type of glove that will protect against all hazards. Check the SDS or consult a glove compatibility chart to identify the appropriate type of glove. Do not wear gloves outside of the lab, and remove them when opening doors and using the computer or phone to avoid cross-contamination.

Lab Coats

Lab coats should be worn when using biological, chemical, or radioactive materials. Wear flame-resistant lab coats when working with flammable or pyrophoric chemicals. Do not bring lab coats home to launder. Consult your department for available options.

Respirators

Federal regulations prohibit the use of respirators by untrained personnel (29 CFR 1910.134). Consult EH&S for a respiratory protection evaluation and fit-testing. Proof of medical clearance to wear a respirator must be provided to EH&S in order to be fit tested.

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How do I operate and maintain safety equipment in my lab?

Emergency Eyewashes and Showers

- All personnel should know the locations of eyewashes and showers.
- Eyewash units must be flushed weekly by laboratory personnel. Safety showers will be flushed quarterly by FM-Operations. FM-Operations will complete annual maintenance inspections on all eyewash/safety shower units.
- Do not block eyewashes or showers with boxes, glassware, or other lab equipment.

First Aid Kits

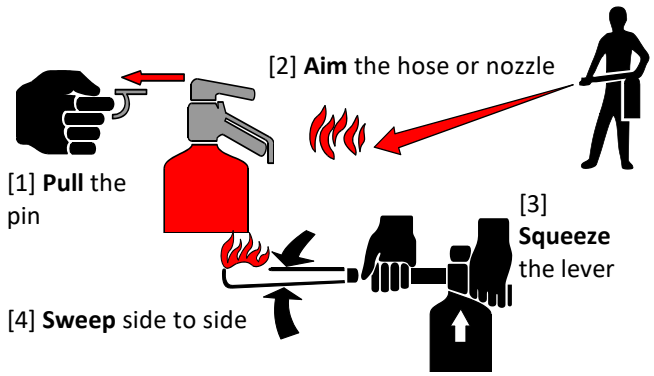
- All personnel should know the location of the first aid kit.
- The first aid kit should be stocked as appropriate to the laboratory and contents should not be expired.

Chemical Fume Hoods

- Keep the sash low while working inside the fume hood and closed when not in use. Close the sash if a spill occurs inside.
- Equipment or chemicals that are in use can be kept in the fume hood. Excess clutter impedes air flow. A fume hood may be used for storage but only if it will not be used to perform activities where there is a potential for exposure to hazardous materials. A sign should identify a storage-only fume hood.
- Work at least six inches inside the fume hood.
- EH&S tests fume hoods annually. There is an inspection record posted on the side of each fume hood.

Fire Extinguishers

- EH&S inspects USF fire extinguishers monthly.
- You are not expected to fight a fire. Alert others and exit the building before calling for help.
- If the fire is small, and you are comfortable using a fire extinguisher, remember to Pull, Aim, Squeeze, and Sweep (P.A.S.S.).



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