
LABORATORY SAFETY QUICK-REFERENCE GUIDE

May 2019 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:



Division of 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 Hazardous Inventory Tracking System (HITS).
- ⇒ If you are a new principal investigator, fill out a HITS Access Request Form to be given access to HITS. EH&S will set up a time to record and upload your inventory into HITS. New chemicals that are delivered to your Central Receiving area will be entered into HITS 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 HITS.**
- ⇒ Additional training on the use of HITS is available by request.

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?

The USF Recycling Program manages universal waste and scrap metal. This includes:

Non-Alkaline Batteries

- Lithium and cadmium-containing batteries
- Lead acid and car batteries
- * Alkaline batteries can be disposed of with regular trash

Mercury-containing Devices

- Fluorescent lamps and mercury containing ballasts

Scrap Metal

- Copper, aluminum, brass, steel, iron

Questions?

Tampa Campus: Call (813) 974-2845

St. Pete Campus: Call (727) 873-4177

Sarasota 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:
 - 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)
- ⇒ These materials must be packaged to prevent sharp points or edges from protruding through a regular trash bag, or placed in the Broken Glass box.

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 waste) must be treated with bleach or approved disinfectant or autoclaved before being poured down the drain.

Biomedical Waste Removal

- ⇒ USF's biomedical waste service provider, Stericycle, 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. EH&S Lab and Research Safety Training includes Biomedical Waste Training. It is also offered separately as either online or instructor-led classes.

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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).
- ⇒ Wastes 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
 - Note: A completed yellow waste tag attached to the container when waste is first added meets 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 HITS to request waste containers from EH&S free of charge. The sizes available are: 4L and 20L containers for liquid waste, and small and large 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 Training on an annual basis. EH&S Lab and Research Safety Training includes Hazardous Waste Training. It is also offered separately as either online or instructor-led classes.

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How do I register for EH&S Laboratory and Research Safety Training?

- ⇒ EH&S offers all required lab training online through Canvas, USF's web-based learning management system. Visit 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 and Research Safety Training before beginning work in the lab. This course is offered in either instructor-led or online formats.
- ⇒ An EH&S refresher training (Hazardous Waste Refresher and/or Biomedical Waste Refresher) must be completed each year. The Biomedical Waste Refresher 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.

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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 HITS, or by contacting the chemical manufacturer and/or vendor directly.
- ⇒ To find additional information about the recent changes in the Globally Harmonized System and SDS requirements visit www.usf.edu/ehs/
- ⇒ Recognizing hazards using globally harmonized symbols:



FLAMMABLE



OXIDIZER



CORROSIVE



HEALTH HAZARD

Standard Operating Procedures (SOPs)

- ⇒ Each principal investigator (PI)/ laboratory manager holds the responsibility of preparing written Standard Operating Procedures (SOPs) for laboratory activities involving hazardous chemicals or machinery.
- ⇒ 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 are available for use on the EH&S web site.

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What do I do if there is a spill?

Evaluate the Spill

- ⇒ For spills that are large, extremely hazardous, or enter a drain, soil, or a body of water call 911, EH&S or USF Police.
- ⇒ 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.
- ⇒ Spread absorbent material around and over spill.
- ⇒ Wait 15 minutes for liquid to be absorbed, and then sweep up using a broom and dustpan.
- ⇒ Place used absorbent material in a plastic bag or bucket.
- ⇒ Label and request pickup through HITS.

Mercury Spill Cleanup

- ⇒ Evacuate the area of a mercury spill and call EH&S for cleanup.
- ⇒ Consider replacing mercury thermometers with mercury-free thermometers.

Incident Reporting

- ⇒ Report all incidents, near misses, or unsafe conditions to EH&S using the incident reporting form on the EH&S website.

Workers' Compensation

- ⇒ Employees and official volunteers are eligible for Workers' Compensation.
- ⇒ Notify your supervisor if you are injured on the job.
- ⇒ Supervisors contact the Workers' Compensation provider, AmeriSys, at 800-455-2079.
- ⇒ Proceed to nearest approved medical facility.

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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 machinery are written and available.
- ⇒ Ensure new workers know Incident Reporting and Workers' Compensation procedures.

Laboratories with Chemicals

- ⇒ Submit a HITS 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 RIC (Research Integrity and Compliance, 974-5638) Biosafety training and EH&S Biomedical Waste training.
- ⇒ 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 (Research Integrity and Compliance, 974-5638) 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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Personal Protective Equipment (PPE) in a Laboratory

- ⇒ PPE must be available to all lab personnel. It is intended to minimize exposure or injury to laboratory employees, visitors, volunteers, and students.
- ⇒ Consult the SDS to learn more about PPE for specific chemicals.

Safety Eyewear

- ⇒ Safety glasses with side shields offer protection against flying debris when there is no risk of liquid splashing. If splashing may occur, use safety goggles or a face shield in combination with safety goggles.
- ⇒ Prescription safety eyewear is an option. In 2005, The National Institute for Safety and Health (NIOSH) recommended that contact lens wear be permitted during work with hazardous chemicals provided suitable eye protection was worn and written guidelines and a hazard assessment were in place.
- ⇒ UV light and laser users require special safety eyewear.

Shoes

- ⇒ Wear shoes that cover the toes, heel, top and bottom of foot. Sandals and other open-toed footwear should not be worn in the lab.

Gloves

- ⇒ Use gloves when handling sharp, hazardous, hot, or cold materials.
- ⇒ There is no one type of glove that will protect against all hazards. Therefore, 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 Coat

- ⇒ Lab coats should be worn when using biological, chemical, or isotope 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 facilities.

Respirators

- ⇒ Federal regulations prohibit the use of respirators by untrained personnel or students (29 CFR 1910.134).
- ⇒ Consult EH&S for a respirator 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.
- ⇒ Lab personnel are responsible for testing eyewashes weekly and keeping a record. Showers are tested annually by USF Physical Plant.
- ⇒ Do not block eyewashes or showers with boxes, glassware, or other lab equipment.

First Aid Kits

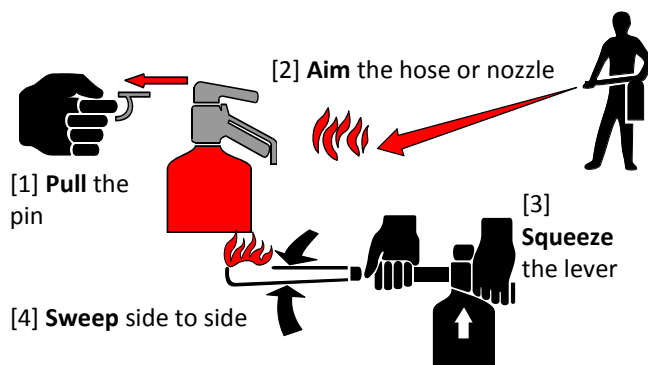
- ⇒ All personnel should know the location of the first aid kit.
- ⇒ The first aid kit should be stocked as appropriate to the laboratory and contents should not be expired.

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

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



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