



Chemical Hygiene Plan

Teaching Laboratories

Environmental Health and Safety (EH&S) at the University of South Carolina (USC) is committed to providing a safe teaching laboratory environment for all students that is also compliant with laboratory safety standards and regulations including, but not limited to, the OSHA Laboratory Standard (29 CFR 1910.1450), OSHA Hazard Communication Standard (29 CFR 1910.1200), International Fire Code, ANSI Standards, Resource Conservation and Recovery Act (RCRA), OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030), National Institutes of Health (NIH) Guidelines, and the Nuclear Regulatory Commission (NRC).

Teaching Lab Supervisors: Lab Managers and Graduate Instructional Assistants

- Ensure all students work in accordance with the teaching lab chemical hygiene plan (CHP).
- Ensure all students and graduate instructional assistants (GIAs) have appropriate personal protective equipment (PPE).
- Ensure all GIAs and lab managers have completed general laboratory safety and hazardous waste training through EH&S and lab-specific training as needed.
- Designate the area for storing particularly hazardous substances (PHSs).
- Provide EH&S with a current and up-to-date chemical inventory every Spring and Fall semester for all chemicals stored in each teaching lab.
- Review and approve standard operating procedures (SOPs) for work with PHSs.
- Review and approve SOPs for operating and maintaining hazardous equipment used by students.
- Inspect and maintain all safety equipment located in each lab including eye wash stations, safety showers, first aid kits, spill kits, fire extinguishers and broken glass containers.
- Investigate accidents and immediately report them to EH&S.
- Ensure all students and GIAs practice basic laboratory safety including, but not limited to, safe handling of chemicals and equipment, use of personal protective equipment, how to use safety data sheets, location and use of safety equipment, appropriate response to emergencies and compliance to teaching lab rules and guidelines. Document this instruction (when, who attended and who provided the instruction).
- Ensure students and GIAs know how to properly dispose of unwanted and/or hazardous waste materials in approved hazardous waste containers.
- Ensure that the approved CHP, lab specific SOPs and PHS SOPs are available to students at all times.
- Provide access to safety data sheets (SDSs) for all chemicals used in the teaching lab. Safety data sheets may be kept electronically and provided upon request.
- Ensure students know the location of the emergency procedures in the teaching lab in the event of an emergency involving themselves or someone else.
- As employees and/or volunteers of the University of South Carolina, all teaching assistants must follow the clothing requirements documented in the University's Chemical Hygiene Plan.

Safety Data Sheets (SDSs)

Each teaching lab is required to provide students with safety data sheets for all chemicals being used in the lab when requested. Some chemicals used in the teaching labs are considered particularly hazardous substances (PHSs). These chemicals are considered very hazardous and it is the responsibility of the individuals overseeing the lab to communicate the hazards of PHSs to students prior to working in the lab. Documentation of hazard communication should be available at all times.

Location of First Aid Equipment

It is the responsibility of the individual(s) overseeing the lab to point out all first aid and safety equipment in the teaching lab before students begin working. First aid equipment includes a fully stocked first aid kit, fully stocked spill kit, eye wash, safety shower and fire extinguisher. Students working in teaching labs should be able to easily point out where all of the first aid equipment is located in the event of an emergency.

Teaching Lab: Rules

- Students are not allowed in the lab without an instructor present.
- The minimum clothing requirement for the teaching labs as enforced by EH&S is as follows: **the entire torso to the mid-thigh must be covered by clothing (preferably 100% cotton)**. Appropriate clothing for lab includes shirts that cover the entire torso and upper arms and pants/shorts that cover at least the mid-thigh and longer. Shirts that expose the abdomen are not permitted. It is up to the discretion of the lab manager to approve clothing in the laboratory. Some laboratory experiments may require full coverage clothing and this is left up to the lab manager to decide on a lab-by-lab basis.
- Personal protective equipment (PPE) must be worn in the lab at all times. PPE consists of approved safety glasses or goggles, protective gloves, and footwear that provides adequate protection against spills and/or safety hazards.
- Long hair must be tied back.
- Head phones are not permitted in the lab.
- Eating, drinking, chewing gum and the use of tobacco products (including e-cigarettes) is not permitted in the lab.
- Never apply cosmetics (makeup) in the lab.
- If oral medication needs to be taken during lab it should be taken outside of the lab.
- Never sit or stand on lab benches or counter tops.
- Chemical spills must be immediately reported to the instructor.
- Handle all chemicals and equipment with caution. Read the labels and follow directions carefully.
- All waste and excess materials must be disposed of according to USC guidelines. Please ask the lab manager or GIA with any questions about waste disposal.
- Never remove chemicals or equipment from a lab.
- Always close chemical containers after use.
- Cell phones and other portable electronic devices may not be used during lab.
- Firearms, knives and other weapons are strictly prohibited in all USC teaching labs.
- Horseplay or other acts of carelessness are strictly prohibited.
- Unauthorized experiments are not permitted.
- Unapproved variations in experiments are prohibited.
- Illegal drugs and alcoholic beverages are strictly prohibited.
- Additional requirements for students working in teaching laboratories may be found in Appendix A: Additional Requirements for Students.

Student Responsibilities

Students are responsible for conducting themselves professionally and courteously while working in a teaching lab. Students are responsible for keeping their work areas neat, clean and orderly. After completion of the lab students will clean up, put materials back where they belong and check with the GIA before departing. If a student has an accident in a teaching lab or observes an accident, s/he is required to report it immediately to the GIA or lab manager.

Students should always come to lab prepared and pay close attention to what they are doing at all times. Students must follow instructions and use common sense while working in a lab. Students should be aware of what their neighbors are doing and inform the GIA if they notice unsafe practices in the laboratory.

Students should be aware that they are ultimately responsible for themselves and their own personal safety while working in a teaching lab.

The GIA and/or lab manager has the authority to dismiss a student from a lab if the student is acting unsafe, irresponsible or is suspected of being under the influence of drugs or alcohol.

Working Alone

No student is permitted to work alone in a teaching lab. The reason for this is to minimize the risk of serious injury while working alone with materials, equipment or in areas that could result in serious injury or an immediate life-threatening hazard. Working alone means an isolated student working with an immediately hazardous material, equipment or in an area that, if safety procedures fail, could reasonably result in incapacitation and serious life threatening injury for which immediate first aid assistance is not available.

Responding to an Incident:

The Thompson Student Health Center provides medical care for USC students and employees during regular work hours.

If a student or GIA requires medical assistance after normal business hours, please report to the closest emergency room. The address and phone number for Palmetto Health Richland is located in the Emergency Phone Numbers table at the end of this document.

Personal Exposure: If clothing catches fire or if a hazardous chemical is spilled on skin or in eyes, assist the exposed person to the shower/eyewash and rinse the areas of contact with copious amounts of water for 15 minutes or until assistance arrives; remove contaminated clothing. Send an uninjured person to notify the lab manager or GIA to ensure injuries receive proper treatment. Proceed to the Thompson Student Health Center for medical treatment during normal office hours and to any emergency room after office hours.

Spill Cleanup: Do not attempt to clean a spill without proper protective equipment. Immediately notify your supervisor before attempting to clean up a spill.

Building Evacuation: When instructed, leave the lab immediately. If it is safe to do so, extinguish all open flames (Bunsen burners), shut down equipment and take all personal belongings before evacuating. Use stairs, never elevators (power may fail in an emergency). Pull the fire alarm as you exit. At a safe location, call 803-777-9111 and report the situation to the USC police department. Proceed to the assigned assembly point for your lab or building. The GIA will take attendance (to assure everyone is safe) and provide this information to responding emergency personnel. Do not leave the area or reenter buildings until instructed to do so. Report any injuries to yourself or others and any remaining dangers to the GIA or emergency personnel. Provide assistance to injured persons, as long as you do not place yourself in additional danger.

Fire: For clothing fire, respond immediately: douse with shower or stop, drop and roll. Do not use the fire extinguisher to quench fire on a person. Do not attempt to fight equipment/property fires in the lab; evacuate the lab quickly (see Building Evacuation); close doors and call for assistance.

Earthquake: Move away from overhead lights, heavy unsecured objects, and hazardous materials. Choose a sheltered position to wait (under a table, in the frame of a closed door, or against a load bearing wall). Once tremors stop, shut down gas lines and heat sources. Exit the building quickly (see Building Evacuation).

Tornadoes: Go to a hallway on the lowest level of a building. Stay away from corners, windows, doors and outside walls. Put as many walls as possible between you and the outside. Get under a sturdy table and use your arms to protect your head and neck. Watch out for flying debris. Flying debris from tornadoes causes most fatalities and injuries.

EMERGENCY PHONE NUMBERS

Department/Agency/Safety Personnel	Phone Number	Type of Emergency
USC Police Department	(803) 777-9111 911 from any campus landline	Fire, explosion, chemical exposure, ambulance service, injury
Environmental Health & Safety (EH&S)	(803) 777-5269 8:00 AM - 4:30 PM	Non-emergency chemical spill, chemical exposure, unsafe conditions
Facilities	(803) 777-9675 24-hour phone number	Emergency and non-emergency facility repair requests
Thompson Student Health Center 1409 Devine St. Columbia, SC 29208	(803) 777-3175 (803) 777-3174 <i>Fall and Spring Semesters</i> Monday – Friday: 8 AM - 5 PM Sunday: 2PM – 8 PM <i>Summer Hours</i> Monday – Friday: 8:30 AM - 4:30 PM <i>Closed on University holidays</i>	Medical evaluation / treatment for USC Columbia students and employees during normal business hours
Palmetto Health Richland ER 16 Medical Park Rd, Columbia, SC 29203	(803) 434-7000	Medical evaluation / treatment for USC Columbia students and employees after regular office hours
Palmetto Health - USC Family Medicine Center 3209 Colonial Drive Columbia, SC 29203	(803) 434-6113 (Main Office) (803) 434-2479 (Nurse Direct Line)	Medical evaluation / treatment for USC School of Medicine employees

Appendices

Appendix A: Additional requirements for students to work safely in a teaching laboratory as determined by the lab management.

Revisions

November, 2016: First revision of the teaching lab CHP.