

# PHYSICAL SCIENCES STAFF LABORATORY SAFETY CONTRACT CENTRAL CAMPUS



Potential hazards exist in all chemical laboratories and some can cause serious accidents. Fortunately, most accidents can be prevented if each person in the lab observes a set of common sense precautions and uses proper experimental procedures. The following rules are to be observed at all times.

Please read the following carefully and be sure that you understand the contents completely prior to filling in the information and signing.

## Protective Clothing and Dress

Wear sensible clothing in the laboratory. Sandals are prohibited, as are shorts, short skirts, and bare midriffs. All personnel **must** wear safety goggles, gloves, and lab coat at ALL TIMES when in the Chemistry Labs. Aprons are also available, if desired. Long hair must be pulled back and only closed-toe shoes are allowed. Headphones are never allowed in the laboratories.

### Personal Safety Equipment:

- A.** Goggles must meet **ANSI Z87.1-1989 standards** for chemical splash and impact resistance. *Safety glasses are prohibited.* You will be provided goggles by the Laboratory Manager.
- B.** You must wear **gloves** at all times in the laboratory (unless otherwise instructed). When done, the gloves are to be disposed of and hands washed before exiting the labs or prep areas. More than one pair of gloves may be required during the preparation.
- C.** You must wear a **lab coat**. You will be provided a reusable apron.
- D.** You must wear **closed-toe shoes** at all times. Leather shoes are suggested for best protection.

## Handling Chemicals and Equipment

Never put anything in your mouth in the laboratory. **No eating, drinking, gum chewing, candy, or smoking** permitted in the laboratory.

Flammable solvents such as ether, acetone, toluene, alcohols, etc., must be kept well away from open flames or sparkable items such as stirring plates.

**All chemicals** should be handled with care using goggles and gloves and be considered toxic, corrosive, flammable and/or pungent unless informed otherwise. Read all labels carefully and utilize the SDSs.

Use only what is needed. Never pour unused reagent back into the reagent bottles.

Return chemicals immediately to their proper places. **Replace lids on all containers immediately after use.** Leaving containers open increases everyone's exposure to the substances within them. Spills are also more likely when a container is open. In addition, some reagents can be ruined by excessive exposure to air.

If you spill a chemical, contact the Laboratory Manager and seek data from the SDS.

No chemical container must be found in the lab without the chemical name on it. Contact the Laboratory Manager if containers are missing labels or improperly labeled.

Keep all chemical containers covered to prevent contamination of the laboratory with fumes.

Never heat a closed container.

The chemical fume hoods are to be used for mixing of all chemicals that produce either toxic or irritating gaseous substances that may be easily inhaled and for **refilling all chemical dispensing bottles and jars**. Never refill anything other than in a fume hood.

Make certain the sash is lowered to a safe level, as shown on the side of the hood. The vertical glass panels on the fume hoods should only be opened to load the fume hoods and do not provide any protection from splashes or fumes. To use the fume hoods **raise the sash horizontally**.

Clean up any spills you create. If you are uncertain as to how a spill should be cleaned, check the SDS.

Use only equipment that is in good condition. Report broken or malfunctioning equipment (Meltemps, hot plates, etc) to the Laboratory Manager. Do not use broken glassware; replace it. When putting glassware out or putting glassware away, always check for flaws such as cracks or rough spots.

When putting equipment out or putting it away, always check for frayed wires and obvious defects. Check that cords are not frizzled, tattered, cracked, or damaged.

Do not force glass tubing (or thermometers) into rubber stoppers, do not force tubing onto flasks or other equipment, etc.; lubricate the glass with glycerine or lubriseal. Protect your hands with towels when inserting glass into a stopper or use the tool in the prep room drawer. Handle all **glassware and equipment** properly and according to safety regulations to avoid cuts and burns. Never struggle with the equipment, if you are unsure or need assistance, ask the Laboratory Manager for details on the proper procedure.

## Waste

You may dispose of dilute acids with plenty of water in the sinks in the laboratories and sinks in the fume hoods. All other **chemicals should be disposed of in labeled waste containers** located in the fume hoods. Never put any chemical waste in the trash, down the drain, or in any container not labeled as waste. Check with the Laboratory Manager or SDS for proper disposal information.

## Working Cleanly and Efficiently

Never begin any chemical preparation without reading the complete procedure first.

Keep aisles and work areas clear and drawers and cabinets closed.

Keep your laboratory bench and all other working areas clean at all times and free of items not related to the procedure.

**Balances must be kept clean.** Do not put any chemicals directly on the balance pans. Clean up all spills immediately. Close all containers tightly, and clean up the surrounding area. Use beakers or weighing paper unless otherwise instructed.

When finished, clean your glassware and put everything away. Clean your countertop and other working areas.

All labels must be removed from all glassware including tubes, beakers, flasks, etc. when you are done with them.

Place all broken glassware in the appropriately labeled red broken glass bins.

Tighten the lids on all jars and bottles of chemicals. Do not leave any container open to the air.

## Gas Jet Procedure

When lighting the burner, open up flow valve on burner, turn on gas, use striker to light the burner. When shutting off, turn the burner off first then turn the gas jet to the off position by turning clockwise all the way. Turn off the gas (burner and jet) immediately after finishing with it.

## Emergency Operation and Safety Features in Laboratories

Campus Safety (Day: x6626 or Night: 9-954-474-8786) and/or calling 911

### Emergency Procedures

In case of a minor spill or fire, punch in the red buttons on the Emergency Utility Shut Off and the Emergency Exhaust Fan and proceed with clean up. If this is an emergency, follow the above procedure and evacuate the building. Please see **Accidents** for more emergency and spill information.

#### **A: Emergency Utility Shut Off – use only in event of emergency**

This shut off controls the gas, water, and electric to the lab.

This control must be turned on for everything to function in the room.

The only reason to turn this control off is in an *emergency situation*, otherwise, this control is to be left on at all times. When this control has been turned off and turned on again, the alarms on the fume hoods will sound. This is normal and only means the fume hoods are resetting and beginning operation.

##### Operation

To shut down everything in the room, punch in the red button.

To turn everything back on in the room, use your safety key to turn it to the “on” position.

#### **B: Instructor Gas Shut Off – use daily only when needed**

This controls the gas to the lab. This needs to be turned off every time your lab is finished. This is only to be left on when the students require the use of gas for their experiments. If there is no gas when this switch has been turned on, make sure the *Emergency Utility Shut Off* is on. The gas will not function if that control switch has been turned off.

##### Operation

To turn the gas on or off, use the safety key.

#### **C: Emergency Exhaust Fan – use only in event of emergency**

This fan is only to be used *for emergencies*, it is not to be used for daily ventilation of the lab.

##### Operation

Punch in the red button to turn the exhaust fan on.

Pull out the red button to turn the exhaust off.

### Gas and Electrical Problems

**Gas Problems:** Check to make sure the Emergency Utility Shut Off and Instructor Gas Shut off are **ON**, if there is still no gas, contact Campus Safety to report it is off. Make sure gas lines are off in all rooms. Campus Safety will then reset the main gas line.

#### **Electrical Problems:**

*First:* check that the Emergency Utility Shut Off is **on**. *Second:* check the GFC's on the counters and student stations. Press in the RESET button. If that does not fix the problem, call Campus Safety to report loss of electricity.

### Accidents

Report any accident or injury by contacting: Campus Safety and/or calling 911 in the event of a serious accident or injury.

Check and memorize the location of the fire extinguisher, safety shower, eye wash station, Bloodborne Pathogen Response (PPE) kits and spill equipment. Be prepared and know how to use this equipment in case of an emergency. Learn and memorize the locations of the building exits and evacuation routes.

Each laboratory has an eyewash station to be used if a chemical has come in contact with your eyes. Just place your face between the two fountains and press the lever to activate the water. Try to keep your eyes open as best you can, as this flushes them much more effectively.

To use the safety shower, disrobe, and pull the shower handle down. The shower is useful for a person on fire as well as chemical contact.

In case of fire, alert the Manager and/or instructors in chemistry labs immediately and exit the laboratory in an orderly fashion, if required to do so. Never attempt to extinguish a fire by yourself.

### Other

Report any unsafe laboratory condition or situation to the Laboratory Manager immediately.

Lab refrigerators are off limits to food and drink, use the breakroom (214). Lab ice maker is off limits as well. Eating and drinking in the lab is not allowed. Smoking is not permitted in the science building.

No one is allowed at your work station. Unless they work for the Physical Sciences department, they are not allowed in our labs, preps, or storage areas.

Put things back where you found them. This includes reagents, aprons, special equipment and anything non-disposable.

Dispose of broken glass, used pipettes, and capillaries in the red broken glass containers beside the front counter.

Never look directly into lasers or UV lamps.

As a matter of routine, **always wash your hands** thoroughly before leaving the lab. Arms and face may require washing if chemical contact is made with these surfaces.

If you are unsure of any of the above procedures, discuss this matter with the Laboratory Manager.

For more information view the books and materials in the Science Laboratory Safety Library in Room 257 or the materials in the Compliance Centers.

I have read the above and agree to uphold these procedures. I have had training in the **Florida Right-to-Know Law** and will apply this information during performance of my job duties. I have completed the annual **Laboratory Safety Training Course**. I understand that failure to comply with any of the procedures above may result in the termination of my employment.

\_\_\_\_\_  
Technician signature

\_\_\_\_\_  
Date of signature

\_\_\_\_\_  
Technician name, printed

\_\_\_\_\_  
Employee ID Number