

# HFCC SCIENCE LABORATORY SAFETY CONTRACT

## PURPOSE

To ensure a safe science classroom, a list of rules has been developed and provided to you in this student safety contract; these rules must be followed at all times. Before you can participate in any laboratory activities, you must sign the Student Statement of Agreement to certify that you have read and understood this document and agree to abide by its rules. You may not participate in any laboratory activities if you do not sign the agreement. Keep this Safety Contract in your lab notebook for reference. The Student Statement of Agreement will be archived by the College.

## SECTION 1: GENERAL RULES & BEHAVIOR

1. If you have a medical condition (e.g. allergies,) or if you are pregnant, it is recommended that you check with your health care provider prior to working in the lab. Notify your lab instructor if you are pregnant.
2. No student may enter the laboratory without an instructor present.
3. No student may enter any prep or storage area.
4. Conduct yourself in a professional manner at all times in the laboratory.
  - a. **Never** fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
  - b. Cell phone use and texting are prohibited in the laboratory. I-pods and similar devices are also prohibited.
  - c. Be quiet when your instructor is talking.
  - d. Perform only those experiments authorized by your instructor. Unauthorized experiments are prohibited.
5. Be prepared for your work. Read all procedures thoroughly before class.
6. Be careful and alert in the laboratory.
  - a. Be careful when transporting glassware or equipment from one part of the lab to another.
  - b. Follow all written and oral instructions. If you don't understand something, ask your instructor before moving on.
7. Keep your work area neat and tidy at all times.
  - a. Bring only your laboratory instructions, worksheets, and/or reports to the lab table/bench. All other materials (books, purses, backpacks, etc.) should be stored in the location designated by your instructor.
  - b. Keep the aisles clear. Return your chair to the proper location when it is not in use.
8. You must personally monitor your experiments at all times. Don't wander, distract other students, or interfere with other laboratory experiments.

## **SECTION 2: FOOD, BEVERAGES, AND CLOTHING**

- 9.** Eating, drinking, chewing gum, and applying cosmetics are prohibited in the laboratory. Food and beverages are never allowed in the laboratories.
- 10.** Labwear must provide a barrier against spills and falling items. To enter the laboratory, you must observe the following points regardless of activities occurring inside:
  - a.** Long hair must be tied back and dangling jewelry/loose or baggy clothing must be secured.
  - b.** Shoes must completely cover the foot – no sandals, flip-flops, slippers, or Crocs allowed.
  - c.** Legs must be covered at least to the bottom of the knee when seated; short skirts/shorts are not permitted.
  - d.** Open midriffs and other clothing with inappropriately placed holes are not permitted.
- 11.** Where appropriate, lab aprons/coats and gloves have been supplied for your use, and should be worn.
- 12.** Laboratory goggles/safety glasses must be worn at all times unless directed otherwise by your instructor. You must provide your own eye protection which meets laboratory standards.
- 13.** Wearing of contact lenses in the lab is discouraged. You must also wear goggles or safety glasses when eye protection is required.

## **SECTION 3: HANDLING GENERAL EQUIPMENT**

- 14.** Do not touch any equipment, supplies, or other materials until you are instructed to do so.
- 15.** If you do not understand how to use a piece of equipment, ask for help. Use only as instructed.
- 16.** Do not remove pieces from any model without your instructor's permission.
- 17.** When unplugging electrical equipment, grasp the plug, not the electrical cord. Don't touch an electrical switch, plug, or outlet unless your hands are completely dry.
- 18.** Report damaged electrical equipment (e.g., frayed cords, exposed wires, loose connections) immediately. Don't use damaged equipment.
- 19.** Always carry sharp instruments with the tip pointing down and away.
  - a.** Always cut away from your body.
  - b.** Grasp sharp instruments only by the handle(s).
  - c.** Never try to catch falling sharps.
- 20.** Return all equipment in clean and working order to the proper storage area.

## SECTION 4: ACCIDENTS AND INJURIES

21. Notify your instructor immediately anytime any of the following occur, no matter how trivial it may appear:
  - a. Injury – you or your lab partner(s)
  - b. Chemical splashes in eyes or on skin
  - c. Spill
  - d. Fire
  - e. Broken/chipped equipment or glassware
22. Broken glassware should only be cleaned up under instructor supervision. Use a brush and dustpan to clean up broken glass, and dispose of in the designated broken glass disposal container. **Never** handle broken glass with bare hands.
23. Know the locations and operating procedures of all safety equipment including the first-aid kit, eyewash stations, safety shower (if present), fire extinguisher, and fire blanket. Know where the fire alarm, exits and the nearest telephone are located.

*Adapted from Flinn Scientific Student Safety Contract*

## HFCC SCIENCE LABORATORY SAFETY: CHEMISTRY

### APPENDIX I: HANDLING GLASSWARE

- A. Examine glassware before each use. **Never** use chipped, cracked, or dirty glassware.
- B. Always lubricate glassware (e.g., tubing, thistle tubes, etc.) before inserting it into a rubber hose.
- C. Wash glassware and equipment with tap water and rinse using wash bottles of distilled/deionized water. Tap water can then be disposed of in the designated waste container.

### APPENDIX II: HANDLING CHEMICALS

- A. Assume that all chemicals in the laboratory are dangerous. **Never** taste, touch, or smell chemicals unless specifically instructed to do so.
- B. Read labels on chemicals carefully, and check them twice before removing any contents. Take only as much as you need according to the lab procedure. **CLOSE** reagent bottles after removing your sample.
- C. Always work in a well-ventilated area; use the fume hood when working with volatile substances or poisonous vapors. **Never** place your head into the fume hood. When finished working, close the hood front.
- D. Handle acids and bases with extreme care. If you spill either on your skin, flush the area with water. Notify the instructor.
- E. **Never** use mouth suction to fill a pipet. Use a pipet pump.
- F. **Never** remove laboratory reagents or equipment from the laboratory.
- G. **Do not** return unused chemicals to the original containers unless directed to do so by your instructor.

- H. Keep hands away from face, eyes, and mouth when using chemicals or preserved specimens.
- I. Dispose of all chemical waste as instructed.
  - a. **Never** pour anything down the sink unless specifically instructed to do so.
  - b. Chemicals, metals, filter paper, and all other materials must be disposed of in the proper containers. Check the label of all waste containers twice before throwing something away.
- J. **Do not** place reagents directly on balance pans; clean up balances and the surrounding area immediately after use.
- K. Wipe down work surfaces at the end of each experiment. Wash hands with soap and water before leaving the lab.

### APPENDIX III: HEATING SUBSTANCES

- A. Be extremely careful when using a gas burner or hot plate.
  - a. Carefully read the manual and know how to operate it. Ask your instructor if you do not understand it.
  - b. Hair, clothing, and hands must be kept a safe distance from heat or flame at all times.
  - c. Turn the burner or hot plate off when not in use.
- B. When heating substances:
  - a. **Never** wear nitrile/latex safety gloves when using a burner or hot plate.
  - b. **Never** put any substance into the flame unless specifically instructed to do so.
  - c. **Never** reach over an exposed flame.
  - d. **Never** leave a lit burner, or anything being heated or visibly reacting, unattended.
  - e. Do not point the open end of a test tube at yourself or anyone else.
- C. Heated metals and glass remain very hot for a long time. They should be set aside to cool and picked up with caution, using tongs or heat-protective gloves when necessary.

Remember that cold and hot glass look the same. Determine if an object is hot by bringing the back of your hand close to it prior to grasping it.
- D. **Never** look into a container that is being heated.
- E. Do not place a hot apparatus directly onto the laboratory desk; always use an insulating pad.