

Pre Lab

1. Read and study the experiment before class. Learn about the hazards of the chemicals before you use them. Chemical hazard information is provided in the Safety Data Sheets (SDS) located in a binder in the Discussion Room or search for SDSs online. Check the [Chemistry Department web page](#) for the SDSs for your course.

Lists of chemicals that will be used in the course are posted along with links to chemical vendors' SDSs.

2. If you have any concerns about exposure to any substances in the laboratory consult the SDSs. Read the entire SDS paying particular attention to section #11.
3. Always wear authorized safety goggles. This is a State Law [105 ILCS 115/ Eye Protection in School Act](#).
4. It is strongly recommended that students cover as much skin as possible while working in the lab. Therefore, long pants, a shirt that covers the upper arms, shoulder, chest, back and midriff, socks and closed toed shoes should be worn. Never wear shorts or skirts above the knee. No tank tops or bare midriffs. No sandals or open toed shoes of any kind. **This is required minimum coverage.**
5. Nitrile gloves are provided in the laboratory. They are used for splash protection, which means that if something is splashed onto the glove, it should be removed and discarded into the trash, and replaced with a new glove. These gloves do not provide protection against long term chemical exposure.
6. Aprons may be worn over clothing for added protection, aprons are provided in the discussion room and the laboratory.
7. If your hair is long, tie it back when working with chemicals or flames, head scarf should be tucked into the collar. Tie back loose or flowing clothing like sleeves or scarves.
8. Leave extra books and outerwear outside the lab in the discussion room.

In the Lab

9. Bringing phones, tablets, laptops or other media devices into the laboratory is discouraged as there is a risk of damage from laboratory activities (water, liquids, corrosive chemicals, heating devices, etc.). Non-laboratory related use of electronic devices (talking, texting, listening to music) is distracting and therefore not allowed during the lab period.
10. Don't do any of the following while in the laboratory: eat, drink, smoke, chew gum or tobacco, handle contact lenses, apply cosmetics, and take medicine. Leave all food and drinks in the discussion room. (After you leave the laboratory, wash your hands before conducting any of these activities.)
11. Always follow your instructor's safety instructions and safety instructions written in experiments. All chemicals have the potential of being hazardous, it is how they are used, concentrations, exposure levels and susceptibility that affects an individual.
12. Use only the reagents set out for you by your instructor.
13. Never contaminate the contents of reagent bottles. Pour reagents into your own containers before pipetting them. Do not waste the reagents. Know the amounts needed and take an appropriate amount for your use.
14. Never return unused or excess chemicals to reagent bottles. Dispose of excess chemicals in the waste containers designated by your instructor.

15. Never keep reagent bottles at your workstation. Return them promptly to the designated area so that others can use them.
16. Follow the instructor's directions for chemical waste disposal.
17. If any large quantity of chemical is spilled, notify the instructor immediately.
18. Don't remove chemicals or equipment from the laboratory. If something is missing from your equipment drawer, notify your instructor.
19. Never leave an experiment unattended. Ask someone to watch it if you have to leave.
20. Perform only authorized lab experiments.
21. Read the chemical name on reagent bottles twice. Many chemicals have similar names. Also read the hazard information on the label.
22. Avoid unnecessary exposure to chemicals. Promptly remove chemicals if they contact your eyes, skin, or clothing.
23. Never taste a substance used in the laboratory.
24. Never smell a substance by putting your nose over the container. Instead, use your hand to fan the vapors toward your nose and only if instructed to do so.
25. Avoid an accident by adding acid to water—never add water to acid.
26. Never heat a stoppered test tube or flask.
27. Avoid pointing the open end of a test tube toward yourself or others.
28. Never pipet using mouth suction. Use a rubber bulb or a special pipetting device. Never force the glass pipet into the rubber bulb or pipetting device.
29. Never insert glass tubing or a thermometer into the hole of a rubber stopper unless it's been pre-split.
30. Place broken glass in the specially marked cardboard container.
31. Operate instruments only under the direct supervision of an instructor.
32. Notify the instructor if any accident or injury occurs, regardless of how small it might seem.
33. In case of fire, remove yourself from danger and notify the instructor.
34. Know the location of the emergency phone, fire extinguisher, fire blanket, fire pull station, eye wash, safety shower, and first-aid kit.
35. Know where to exit and where to meet for fire evacuation and tornado. Do not ignore alarms.
36. Don't enter the Prep Room or the Work Room without permission.
37. Conduct yourself in a responsible manner when working in the laboratory. If someone else's behavior puts you in jeopardy, notify the instructor.

Post Lab

38. At the end of the laboratory period:

- clean your glassware
- wipe down your bench-top workspace, clean any spilled chemical from the balance
- rinse out the sponge and lay the sponge flat by the cup sink
- return supplies and equipment to the fume hood and community lockers
- return glassware to the student locker in a neat, orderly condition
- wash your hands with soap and water



Hazard Communication Standard Pictogram

As of June 1, 2015, the Hazard Communication Standard (HCS) will require pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

HCS Pictograms and Hazards

Health Hazard <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	Flame <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	Exclamation Mark <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder <ul style="list-style-type: none"> • Gases Under Pressure 	Corrosion <ul style="list-style-type: none"> • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals 	Exploding Bomb <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle <ul style="list-style-type: none"> • Oxidizers 	Environment (Non-Mandatory) <ul style="list-style-type: none"> • Aquatic Toxicity 	Skull and Crossbones <ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)

For more information:
OSHA Occupational Safety and Health Administration
 U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)

OSHA 34891402 2012



Hazard Communication Standard Labels

OSHA has updated the requirements for labeling of hazardous chemicals under its Hazard Communication Standard (HCS). As of June 1, 2015, all labels will be required to have pictograms, a signal word, hazard and precautionary statements, the product identifier, and supplier identification. A sample revised HCS label, identifying the required label elements, is shown on the right. Supplemental information can also be provided on the label as needed.

For more information:
OSHA Occupational Safety and Health Administration
 (800) 321-OSHA (6742)
www.osha.gov

SAMPLE LABEL	
CODE _____ Product Name _____	Product Identifier
Company Name _____ Street Address _____ City _____ State _____ Postal Code _____ Country _____ Emergency Phone Number _____	Supplier Identification
Hazard Pictograms 	
Signal Word Danger	
Keep container tightly closed. Store in a cool, well-ventilated place that is locked. Keep away from heat/sparks/open flame. No smoking. Only use non-sparking tools. Use explosion-proof electrical equipment. Take precautionary measures against static discharge. Ground and bond container and receiving equipment. Do not breathe vapors. Wear protective gloves. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Dispose of in accordance with local, regional, national, international regulations as specified.	
Highly flammable liquid and vapor. May cause liver and kidney damage.	
Precautionary Statements	
Supplemental Information Directions for Use _____ _____ _____ Fill weight: _____ Lot Number: _____ Gross weight: _____ Fill Date: _____ Expiration Date: _____	

OSHA 34893 02 2012