1. **Read** the experiment before coming to lab. The more prepared you are, the safer and more efficient you will be in lab. Completion of the pre-lab assignment will help you understand what you will be doing before your scheduled lab.

2. Think about what you need to wear to lab before you come to your lab. **No sandals** are allowed because your feet need a protective cover over them in case of spills or excess heat. Arrange long hair so that it won’t be accidentally burned, pulled, or fall into chemical containers. **The wearing of contact lenses in the lab is not recommended**, even when wearing safety goggles. Contact lenses do not provide adequate eye protection, and in some cases may complicate or create an emergency situation. For example, caustic liquids splashed into the eyes may form a liquid layer beneath the contact lens; the eyewash will not rinse out the caustic liquid adequately unless the lens is removed. Also, some organic compounds can actually dissolve or be absorbed by the contact lens.

3. All coats and backpacks are to be left in the hallway, outside of the lab.

4. Drinks, food, candy, and **gum** are not allowed in the lab.

5. The lab instructor will indicate when you may begin experimentation each week. No one is to start lab work early. You may only work in the lab with authorized supervision.

6. The chemicals needed for each lab assignment will be made available in your work area as needed. Several of the substances used in this laboratory are hazardous, but when used properly and with caution, exposure is avoided. All chemicals will be marked with appropriate hazard labels. If you follow the directions given during lab, the chemicals pose no threat to your health. *As part of your pre-lab preparation, you will look up safety information on each reagent you will use during lab procedures.*

7. In the case of an accident, **report any spills or breakage** to your instructor at once, so that the appropriate safety measures can be made. DO NOT attempt any chemical clean- up on your own. Immediate corrective measures will remove any danger.

8. In the case of a **fire** involving your clothing use the procedure called **STOP-DROP-and-ROLL**. **STOP** what you are doing; **DROP** to the floor, and then **ROLL** over and over to extinguish the flames. Do not run to the fire blanket or safety shower if your clothes are on fire, STOP-DROP-and ROLL first. Someone else will get a fire blanket or assist you to the shower.
SAFETY RULES for everyone working in the general chemistry lab:

1. Put on safety glasses as soon as you come into the room. These must be worn the entire duration of lab! Even when you have finished your experiment, keep them on. Other people around you will still be working.

2. Keep your face well away from reactions. Never watch heating solutions from above; look instead from the sides of the container.

3. When smelling the odor of a liquid, do not put your nose or face directly over the container. Rather, fan a little of the vapor toward you with your hand. This will protect your nose and lungs from potentially strong smells and harmful vapors.

4. Avoid breathing dusts and vapors. Keep powders in covered beakers and work with volatile liquids in the fume hood.

5. Wash away solutions splashed onto your skin by flushing with lots of water and notify your instructor. Large corrosive spills on clothing may require use of the safety shower. In such a case, ask for help. The instructor will assist with all contaminated clothing (while you are under the shower). Go to the nearest eye wash station if solution has been splashed into your eyes. Rinse for 10-15 minutes.

6. When diluting concentrated acid, add the acid slowly to the water.

7. Label any container to which you added chemicals.

8. Transfer reagents needed for your own use into a container to measure from, taking only about what you need. Never return reagents taken out of the original container back into the original source.

9. All waste will be collected in appropriately labeled containers provided for you in the lab. It is against the law to flush many substances down the drain. Ask if you don’t know where to put your waste.

10. When your work is completed, clean your work area. Clean used glassware before putting it away. Return borrowed items in better condition than originally found. Wash your hands before leaving lab.

11. Use common sense. Practical jokes, unnecessary noise, loud music downloaded from the WEB, etc. are not acceptable. For your protection we have to enforce all safety rules.

12. Do not remove any equipment nor chemicals from K405. Taking materials designated for lab use not only inconveniences other students and increases lab costs, it can also lead to safety issues on the campus.
MORE INFORMATION: MATERIAL SAFETY DATA SHEETS

The Hazard Communication Standard gives workers the right to know the hazards to which they are exposed. In compliance with this standard, Material Safety Data Sheets (MSDS) are kept in lab for chemicals you will be handling. Each MSDS sheet includes the name of the chemical (or components of a mixture), common names, physical and chemical characteristics, fire and explosion hazard data, reactivity data, health hazards and precautions for safe handling of that substance. A more comprehensive collection of MSDS for all chemicals located in this building is kept on the third floor corridor of Keyes.

Stock bottles of chemicals also contain safety information. This includes chemical name, manufacturer, health, flammability and reactivity hazards. The label also includes specific hazards unique to that chemical (oxidizer, water reactive, etc.). The diamond on some bottles indicates these hazards also:

The numerals in the boxes of the diamond indicate the severity of the hazard with “0” indicating little or no hazard and “4” indicating severe hazard. For example, acetone (the major component in nail polish remover) has the ratings:

That is, the health rating of 1 means acetone can cause some irritation, but only minor residual injury. The fire rating of 3 means acetone is flammable. The reactivity rating of 0 indicates that acetone is stable under a variety of conditions, including exposure to water.