**Introduction to the Chemistry 131 Laboratory**

**Welcome** to Chem 131 lab. You get to spend 2 hours once a week messing with organic chemicals. This is not a minor part of the class -- one of the key things we hope to teach you is some intuition about chemicals and how to approach them. You should know how to get a sense of what the chemical will be soluble in or react with and how to dispose of it. The experiments and activities are meant to build this intuition and to be useful and stimulating and, yes, even fun.

**Safety**

Before we get to the specific rules below, we must emphasize the most important safety rule: THINK! Good common sense will get you through most situations. If there is anything that is unfamiliar or doesn't seem right, *please ask* -- your TA, your instructor, your neighbor. It is important that you understand how the equipment and glassware you're using works, and that you not plow ahead if anything looks wrong. No one will be criticized for asking. And now, the rules:

**LABORATORY SAFETY**

**Safety goggles must be worn in the laboratory at all times.** Appropriate goggles are available from the bookstore.

**Do not eat, drink or smoke in the laboratory.** To avoid contamination, do not bring consumable materials into the lab.

**Learn the location and operation of the safety showers, emergency eye washes and fire extinguishers in the laboratory.** In the case of spills onto a person or clothing, the immediate action should be water and lots of it. Do not hesitate to yell for help. Use the safety showers and/or eye washes and don't worry about the resulting mess. Don't use the safety showers for non-emergencies since they are designed to deliver about 50 gallons of water before shutting off. Report accidents to your instructor. He/she has been certified to administer first aid. If you are not familiar with the operation of the fire extinguishers ask your instructor to explain it to you. The fire extinguishers should only be used for real emergencies since the chemicals they contain can cause considerable damage.

**Become familiar with all of the exits from the laboratory.** A repeating siren and flashing of the FIRE indicator is the building evacuation signal. If this alarm goes off while you are in the lab, turn off any open flames, grab your valuables, and leave the building as quickly as possible.

**Clean up spills immediately.** The next person to come along has no way of knowing if clear liquid or white powder on the lab bench is innocuous or hazardous. Neutralize acid spills with sodium bicarbonate (baking soda) before cleaning them up.

**Wash your hands frequently after handling chemicals and always after lab.**

**Never return unused reagents to their storage containers.** If you take more than you need dispose of the excess in the appropriate manner. Use the reagents sparingly - they are expensive.
and time consuming to prepare. When taking reagents, transfer the amount you need to a clean beaker or other suitable container for taking the material back to your desk. Again, check and double check the identity of all materials before using them.

**Do not point the open end of a test tube or other vessel containing a reaction mixture toward yourself or anyone else.** If the procedure calls for you to observe the odor of the contents of a vessel, hold it upright in front of you, gently fan some of the vapors toward your nose and sniff gently.

**Dress appropriately for the laboratory.** Bare feet are not permitted in the laboratory. Sandals or other open-toed shoes may be hazardous in case of spills. Cotton clothing (including denim) is particularly susceptible to being eaten by acid solutions. The laboratory is not a good place to wear your favorite clothes. Lab coats will be available to use and they are located in the instrument room.

**Keep coats, backpacks and other non-essential materials away from areas where people are working.**

**Dispose of all broken glassware and other sharp objects into the cardboard glass disposal boxes.** Custodial personnel will stop collecting trash after they find broken glass in the trash cans.

**Dispose of chemical reagents and other materials properly.** The proper disposal of chemical wastes is essential to the health and safety of faculty, staff, students and the surrounding community. Chemical wastes must be managed and discarded in the most responsible and environmentally sound method available. Metro expect your cooperation in taking care of the environment. Your laboratory manual will specify how to dispose of chemicals used during the laboratory period. Do not put chemicals into glass boxes or wastebaskets. Only specified non-hazardous water soluble materials can be rinsed down the drain. Waste containers for other materials will be provided. If you are unsure of how to dispose of a particular material, ask your instructor.