EMERGENCY PROCEDURE

Know the location of all the exits in the laboratory and building.

Know the location of the emergency phone.

Know the location of and know how to operate the following:

- Fire extinguishers
- Alarm systems with pull stations
- Fire blankets
- Eye washes
- First-aid kits
- Deluge safety showers

In case of an emergency or accident, follow the established emergency plan as explained by the instructor and evacuate the building via the nearest exit.

GENERAL WORK PROCEDURE

- Know emergency procedures.
- Never work in the laboratory without the supervision of an instructor.
- Always perform the experiments or work precisely as directed by the instructor.
- Immediately report any spills, accidents, or injuries to a instructor.
- Never leave experiments while in progress.
- Be careful when handling hot glassware and apparatus in the laboratory. Hot glassware looks just like cold glassware.
- Never point the open end of a test tube containing a substance at yourself or others.
- Never fill a pipette using mouth suction. Always use a pipetting device.
- Make sure no flammable solvents are in the surrounding area when lighting a flame.
- Do not leave lit Bunsen burners unattended.

A science program has certain potential dangers. Yet, with careful planning, most dangers can be avoided in an activity-oriented science program. It is essential for all involved in the science instruction program to develop a positive approach to a safe and healthful environment in the laboratory. Safety and the enforcement of safety regulations and laws in the science classroom and laboratory are the responsibility of the Professor or instructor, and student—each assuming his/her share. Safety and health should be an integral part of the planning, preparation, and implementation of any science program.

Safety and health considerations are as important as any other materials taught in school science programs. Occupational injury data from industry studies indicate that the injury rate is highest during the initial period of employment and decreases with experience. Similarly, in a laboratory setting where students experience new activities, the likelihood of incidents, injury, and damage is high. Therefore, it is essential that the students are taught what can go wrong, how to prevent such events from occurring, and what to do in case of an emergency.
CONDUCT

» Do not engage in practical jokes or boisterous conduct in the laboratory.

» Never run in the laboratory.

» The use of personal audio or video equipment is prohibited in the laboratory.

» The performance of unauthorized experiments is strictly forbidden.

» Do not sit on laboratory benches.

» Turn off all heating apparatus, gas valves, and water faucets when not in use.

» Do not remove any equipment or chemicals from the laboratory.

» Coats, bags, and other personal items must be stored in designated areas, not on the bench tops or in the aisle ways.

» Keep the floor clear of all objects (e.g., ice, small objects, spilled liquids).

CHEMICAL HANDLING

» Check the label to verify it is the correct substance before using it.

» Wear appropriate chemical resistant gloves before handling chemicals. Gloves are not universally protective against all chemicals.

» If you transfer chemicals from their original containers, label chemical containers as to the contents, concentration, hazard, date, and your initials.

» Do not directly touch any chemical with your hands.

» Never use a metal spatula when working with peroxides. Metals will decompose explosively with peroxides.

» Hold containers away from the body when transferring a chemical or solution from one container to another.

» Use a hot water bath to heat flammable liquids. Never heat directly with a flame.

» Add concentrated acid to water slowly. Never add water to a concentrated acid.

» Weigh out or remove only the amount of chemical you will need. Do not return the excess to its original container, but properly dispose of it in the appropriate waste container.

» Never touch, taste, or smell any reagents.

» Never place the container directly under your nose and inhale the vapors.

» If you transfer chemicals from their original containers, label chemical containers as to the contents, concentration, hazard, date, and your initials.

» Do not directly touch any chemical with your hands.

» Use the laboratory chemical hood, if available, when there is a possibility of release of toxic chemical vapors, dust, or gases. When using a hood, the sash opening should be kept at a minimum to protect the user and to ensure efficient operation of the hood. Keep your head and body outside of the hood face. Chemicals and equipment should be placed at least six inches within the hood to ensure proper air flow.

» Clean up all spills properly and promptly as instructed by the instructor.

HOUSEKEEPING

» Keep work area neat and free of any unnecessary objects.

» Thoroughly clean your laboratory work space at the end of the laboratory session.

» Do not block the sink drains with debris.

» Never block access to exits or emergency equipment.

» Inspect all equipment for damage (cracks, defects, etc.) prior to use; do not use damaged equipment.

» Never pour chemical waste into the sink drains or wastebaskets.

» Place chemical waste in appropriately labeled waste containers.

» Properly dispose of broken glassware and other sharp objects (e.g., syringe needles) immediately in designated containers.

» Properly dispose of weigh boats, gloves, filter paper, and paper towels in the laboratory.

APPAREL IN THE LABORATORY

» Always wear appropriate eye protection (i.e., chemical splash goggles) in the laboratory.

» Wear disposable gloves, as provided in the laboratory, when handling hazardous materials. Remove the gloves before exiting the laboratory.

» Wear a full-length, long-sleeved laboratory coat or chemical-resistant apron.

» Avoid wearing shirts exposing the torso, shorts, or short skirts; long pants that completely cover the legs are preferable.

» Wear shoes that adequately cover the whole foot; low-heeled shoes with non-slip soles are preferable. Do not wear sandals, open-toed shoes, open-backed shoes, or high-heeled shoes in the laboratory.

» Secure long hair and loose clothing (especially loose long sleeves, neck ties, or scarves).

» Remove jewelry (especially dangling jewelry).

HYGIENE PRACTICES

» Keep your hands away from your face, eyes, mouth, and body while using chemicals.

» Food and drink, open or closed, should never be brought into the laboratory or chemical storage area.

» Never use laboratory glassware for eating or drinking purposes.

» Do not apply cosmetics while in the laboratory or storage area.

» Wash hands after removing gloves, and before leaving the laboratory.

» Remove any protective equipment (i.e., gloves, lab coat or apron, chemical splash goggles) before leaving the laboratory.