

## Laboratory Safety

Safety is the highest priority in laboratories and science classrooms. The rule is:

***If it can't be done safely, don't do it.***

Laboratory hazards fall into 4 main categories:

- Chemical Hazards – including chemical spills, chemical burns, poisoning
- Fire Hazards – including open flame burns, ignition of volatiles, spontaneous combustion
- Burns to the skin due to heat or flame
- Cuts and lacerations – due to glassware or equipment breakage or explosion

### Accident Prevention

1. Before using any chemical reagent, always read the safety information on the label.
2. Always wear protective clothing: safety goggles, lab coat, lab apron, gloves, full face shield (as indicated by the nature of the hazard).
3. Always review potentially hazardous procedures in full before proceeding.
4. Always observe caution when carrying out any step of a laboratory procedure.
5. Never use volatile organic solvents near open flames.
6. Always use the fume hood for noxious or dangerous fumes.
7. Never pipet anything by mouth – use a pipet bulb or automatic pipettor.

### Safety Equipment

Know the location and use of:

- fire extinguisher
- eye wash fountain
- safety shower
- fire blanket
- fire alarm
- first aid kit

Accident Procedures

**In case of chemical spill:**

- Identify material spilled
- Report the spill to the teacher
- Consider ways of containing and/or neutralizing the substance
- Do not use water to dilute immiscible organic materials

**In case of burns:**

- Put burned area under gently running cold water or immerse in a sink full of cool water
- Place a bag of ice, frozen peas, corn, etc against the burn.
- NEVER put grease on a burn
- Never attempt to neutralize a chemical burn with another chemical.
- If a chemical splashes into the eyes, immediately flush with copious amounts of cold water – use eye wash fountain.
- If a large quantity of dangerous chemical is spilled on the person, remove clothes and use the shower.
- Report burn to teacher.

**In case of poisoning:**

- Report incident to teacher immediately
- Obtain medical help.

**In case of cuts:**

- Put cut under cold running water
- Elevate the cut area
- Report cut to teacher
- Where is the first aid box located? \_\_\_\_\_

**In case of fire:**

- Identify the source and type of fire
- Consider the various methods available to smother the flames: lid, baking soda, salt, fire extinguisher, fire blanket.
- If a victim is on fire, cover him/her completely in a fire blanket.
- Do not use water on electrical or solvent fires.
- Where is the nearest fire alarm? \_\_\_\_\_

**Fire drill procedure:**

- Turn off Bunsen burners and electrical equipment
- Close doors and windows when leaving
- Stay together and follow teacher outside for attendance check
- Do not talk, run or panic. Listen for instructions.
- Which exit should you use to leave the school? \_\_\_\_\_
- Where does the class gather outside? \_\_\_\_\_