Safety and Rules of the Laboratory
SAFETY IS NO ACCIDENT
Safety Symbols

- Know safety symbols
- They appear in your laboratory activities
- They will alert you to possible dangers
- They will remind you to work carefully
Use Your Head

- Exercise Caution and Good Judgment
- Follow all instructions given by the Lecturer
- Notify the Lecturer immediately regarding any accident or unsafe areas

Professor Glickman, the lab practical joker, deftly places a single drop of hydrochloric acid on the back of Professor Bingham's neck.
Use Your Head

• Read lab instructions ahead of time
• Always follow lab procedures exactly
• Never do an unauthorized experiment
Protect Yourself
Eye Safety

• Wear safety goggles when working with chemicals, flames, or heating devices
• or if possibility of flying debris
Protect Yourself

Eye Safety

• In case of emergency in which a chemical goes into one’s eye, use the eyewash station
Protect Yourself
Proper Attire

- Keep all long hair tied back
- Do not wear loose clothing that could catch on fire
- Foot wear that completely covers the foot is required
Protect Yourself
Hand Safety

• If a chemical spills on your skin, notify the lecturer and rinse with water for 15 minutes
• Wash hands after every lab
• Handle glassware, sharp tools and heated containers carefully
Sharp Objects

- Always cut away from fingers and body
- Always carry sharp objects with points and tips facing down and away
- Never try to catch falling sharp instruments
- Grasp sharp instruments only by the handles
Sharp Objects

- Notify lecturer if you get cut
- Broken glass and sharp objects do not go in trash cans
- Teacher will clean up broken glass

When using knifes or other sharp objects always walk with the sharp points facing down and away
Electrical Safety

• Only electrical plugs are to be placed into an electrical outlet
• Unplug electrical equipment after use
• Keep all electrical cords, wires, and appliances away from water
Electrical Safety

1. Lay electrical cords where no one can trip on them or get caught in them.

2. Be sure your hands and your lab area are dry before using electrical equipment.

3. Never poke anything into electrical outlets.
Electrical Safety

4. Unplug cords by pulling the plug and not the cord.

5. Unplug all electrical equipment at the end of the lab period.
Physical Safety

- Handle all equipment carefully
- Do not place a cord where someone can trip over it
- Push all stools in out of the way
- Keep books picked up out of walking isles
Heating Safety

- Tie back hair and loose clothes when working with open flames
- Never look into a container as you are heating it
- Never point the end of a test tube being heated at yourself or others
- Never heat in a closed container
Heating Safety

- Never leave a heat source unattended
- Heated metal and glass looks cool, use tongs or gloves before handling
- Do not place hot glassware directly on lab desk or in cold water
Chemical Safety

- Read all labels twice before removing a chemical from the container
- Only use the type and amount of chemical instructed to use
- Never touch, taste, or smell a chemical unless instructed by the teacher
- Never mix chemicals unless instructed to do so
Chemical Safety

• Transfer chemicals carefully!
• Keep lids on chemical containers when not in use
• When diluting an acid, pour the acid into water
• Consider all chemicals dangerous
You Should Never...

- Enter store room unless given permission
- Take any chemicals from lab or store room
- Touch any equipment, chemicals, or other materials until instructed to do so
You Should Never…

• Eat or drink in the lab
• Use lab glass-ware to eat or drink out of
You Should Never…

• Engage in….
  – practical jokes
  – horse play
  – rough house

The favourite practical joke amongst Big Bang theorists.
In case of an emergency...

- Know the locations of:
  - fire extinguisher
  - fire blanket
  - body shower
  - eyewash station
  - first aid kit

- If you spill a harmful chemical on yourself or in your eyes, start rinsing immediately and send your partner to get lecturer’s help
Remember to...

- Stay at your work station
- Maintain a clean work area
- Read and follow all directions
- Report any spills, accidents, or injury to the teacher immediately
- Clean and put away all equipment at the end of the lab period
- Dispose of waste products according to instruction
First Aid

Injury: Burns
What To Do: Immediately flush with cold water until burning sensation is lessened.

https://www.slideshare.net/clemesg/lab-safety-ppt-14043462
Injury: Cuts, bruises

What To Do: Do not touch an open wound without safety gloves. Pressing directly on minor cuts will stop bleeding in a few minutes. Apply cold compress to bruises to reduce swelling.
First Aid

Injury: Fainting
To Do: Provide fresh air and have the person recline so that their head is lower than the rest of their body.
First Aid

Injury: Eyes

What To Do: Flush eyes immediately with plenty of water for several minutes. If a foreign object is lodged in the eye, do not allow the eye to be rubbed.
First Aid

Injury: Poisoning

What To Do: Find out what substance was responsible for the poisoning and alert the teacher immediately.
First Aid

Injury: Spills on the skin
What To Do: Flush with large quantities of water. For acid spills, apply baking soda solution. For base spills, apply vinegar or boric acid.
First Aid

Injury: Electrical shock
What To Do: Shut off the current at the source. Remove wire with rubber gloves. Alert the teacher immediately.
So Do It Right!

THE RIGHT WAY IS THE SAFE WAY