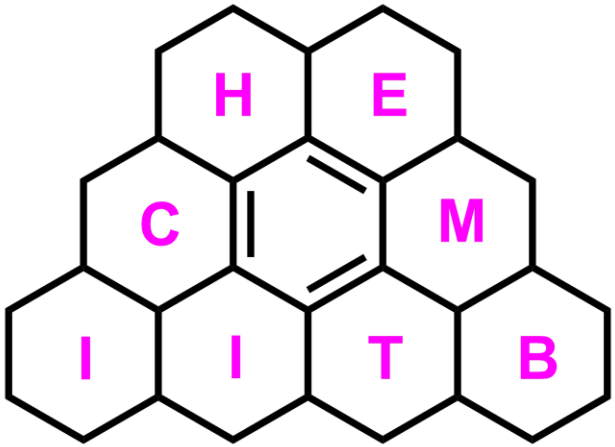
Laboratory Safety Guidelines



Department of Chemistry
IIT Bombay

March 2018

Department Safety Committee

- Prof. G. Naresh Patwari (member)
- Prof. M. S. Balakrishna (member)
- Prof. Pradeepkumar P. I. (coordinator)
- Dr. Ravichandran Gopal (Reliance Industries)
- Mr. K.V. Sajith (safety officer, IIT Bombay)
- Mr. Narendra K. (staff in-charge)

Student Safety Coordinators from Each Lab

Safety Protection

- Every person in the labs should wear safety goggles, lab coats (full sleeve) and feet covering sports shoes.
- At the time of performing experiments, the personal is required to wear hand gloves.

Safety goggles, lab oats and shoes are Mandatory

Transportation/Transfer of Chemicals/Solvents/Glassware

Within a lab and lab to lab

Use tray/ rubber containers

From solvent shed

- **If multiple cans need to be carried, trolley should be used.**
- **While transferring from drums and pouring into cans, students should wear lab coats, hand gloves, goggles and shoes.**
- **Transfer of toxic solvents such as MeOH, Benzene, THF, pyridine, CH_3CN etc. should be carried out only inside the fume hood.**

Use of Mobile Phones/Laptops

- **Use of mobile phone is strictly forbidden while carrying out experiments or during transportation of chemicals/solvents.**

- **Listening of music with head phones on while doing experiment is also forbidden.**

- **Loud music should not be played in the lab**

- **Laptops should not be operated on work benches** *(Laptop batteries are not fire resistant, and the body is not chemical proof)*

Exit Doors in the Labs

Exit doors of labs are either closed or has little space for movement due to clutter.

- **There should be free space near exit doors. Storage of solvents/chemical/filled gas cylinders should be avoided near exits.**
- **There should be two exit doors for wet labs (3 bay) and both should be kept open during the lab hours.**

Fume hoods

Fume hoods are neither on nor closed appropriately when reactions/distillations are running

- Excess storage of chemicals.
- Exhaust slots blocked.
- Containers stored within six inches of face of hood.

Gas Cylinders

- **All the cylinders are to be <u>chained inside the lab</u>.**
- **Trolleys are to be used for transportation of gas cylinders.**
- **Special care while handling toxic gases (CO, CH_4, H_2 etc)**

Waste Chemicals/Solvents

- **Waste solvents need to be segregated (chlorinated and non-chlorinated) and to be stored in separate containers.**

- **The waste containers are to be kept near or below the wash basin. No solvent should be poured into the sink.**

- **No chemicals/bottle/syringes/needles/cans/broken glassware should be discarded on terrace or in front of solvent shed**

Stinky/Hazardous Chemicals

- **Thiols, mercapto ethanol, pyridine, triethyl amine, Selenium/Tellurium compounds etc. have strong unpleasant smells**

- **Handle them only inside the fume hood (make sure that the hood is on)**

All the reactions and solvent distillations should be performed inside the fume hoods.

Student Safety Coordinator and Accident Reporting

- Every lab should have a student safety coordinator
- Any accident irrespective of it's nature happened in a particular lab to be immediately informed to the Guide/HOD/members of the safety committee
- Details of the accident need to be filled in using online response sheet, which will be made available in departmental website soon

Penalty for Safety Violators

- **All penalty will have to be paid to Chemistry Association and no-dues certificate will not be issued for defaulters**

- **If major safety violations are found the whole lab will be locked**

Awareness

- **Watch IITB Safety Videos (http://www.iitb.ac.in/safety/en)**
- **Attend safety lectures**
- **Follow safety rules and make you and others around you safe**