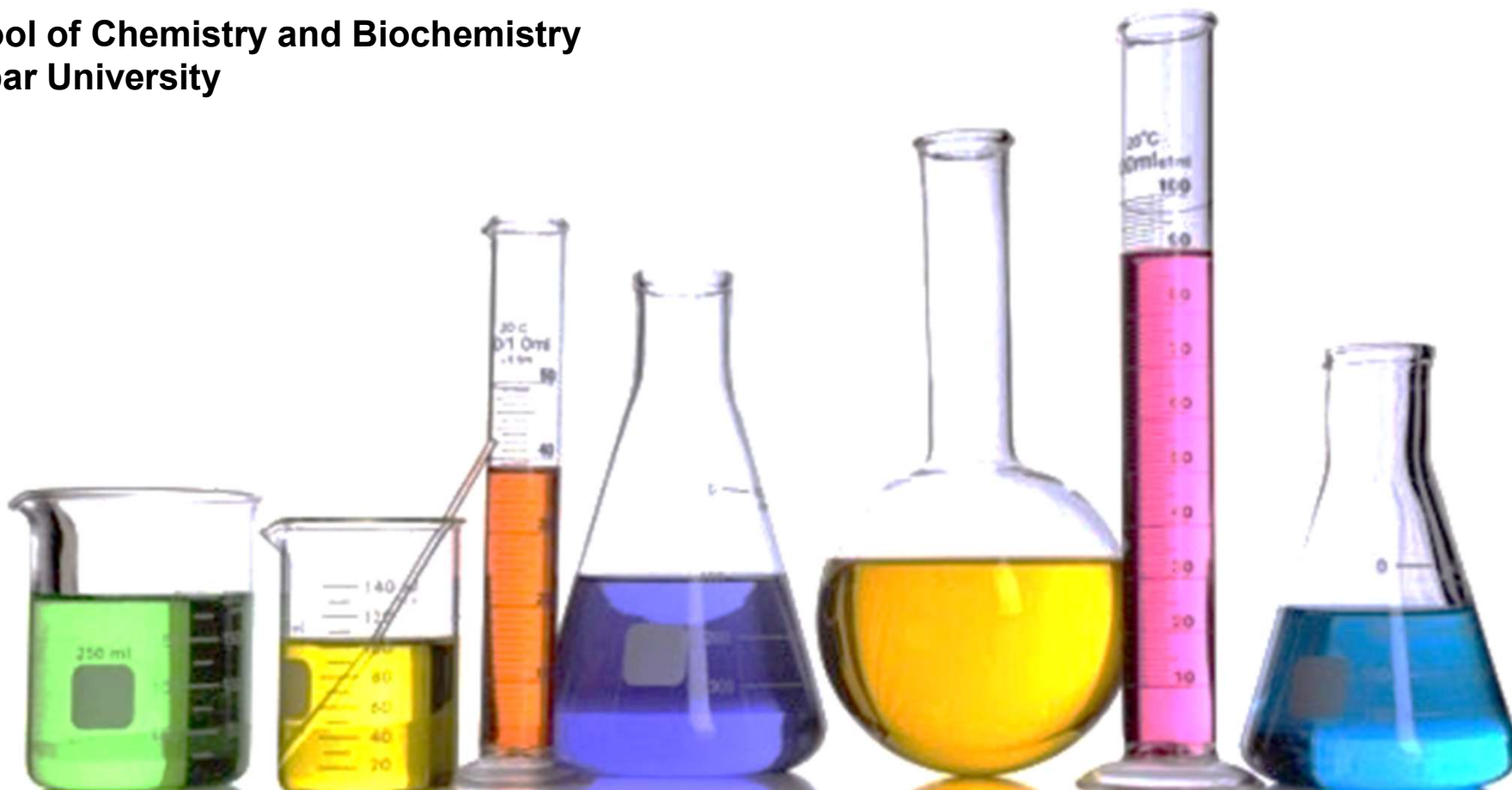


# Safety Precautions in a Chemistry Laboratory

School of Chemistry and Biochemistry  
Thapar University





Laboratory safety rules are  
**NOT** meant to be broken

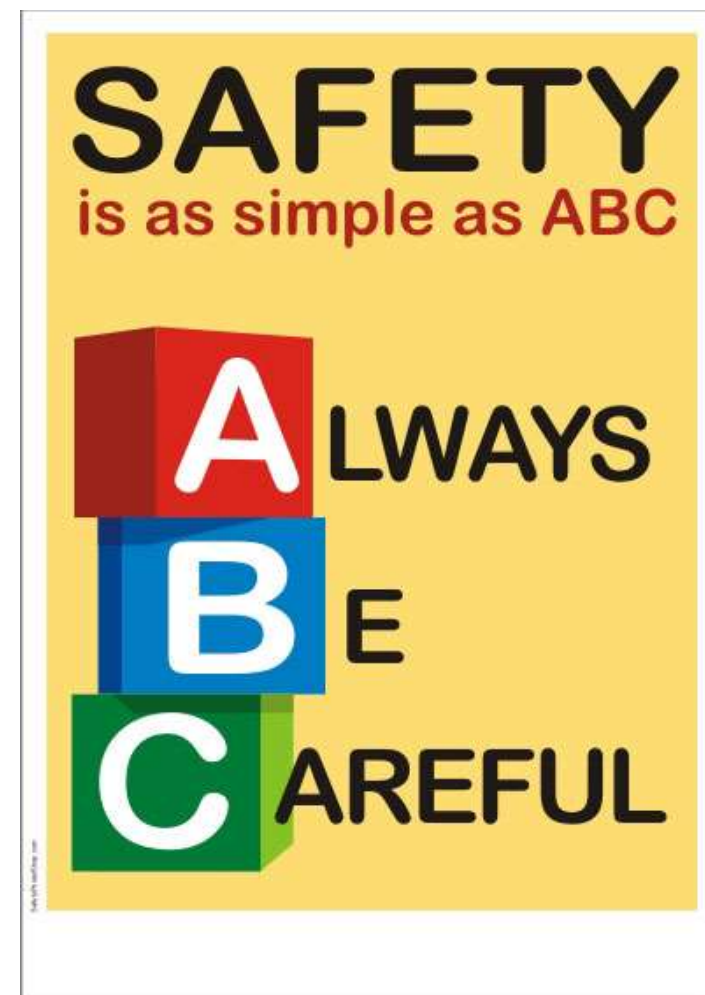


Image courtesy: [www.pinterest.com](http://www.pinterest.com), [www.safetypostershop.com](http://www.safetypostershop.com)



<http://knowyourmeme.com/memes/carol-s-safety-goggles>  
[www.flinnsci.com](http://www.flinnsci.com), [www.chemistry-blog.com](http://www.chemistry-blog.com)

## Proper Eye Protection



**Always wear safety goggles when working inside a chemistry laboratory**



## Wear Lab coat/Apron



Lab coat/apron protects you and your clothing

Proper fit apron to be worn since loose clothing can be potentially hazardous

Tie loose hair properly



Acid spill (conc.  $\text{H}_2\text{SO}_4$  + conc.  $\text{HNO}_3$ ) during nitration reaction

## Wear covered shoes



Image courtesy: [http://www.chemlabs.bris.ac.uk/outreach/chemnet/Chemnet\\_safety.html](http://www.chemlabs.bris.ac.uk/outreach/chemnet/Chemnet_safety.html), [www.macssgroup.com.au](http://www.macssgroup.com.au), [labphoto.tumblr.com](http://labphoto.tumblr.com)



# Commonly-used Glassware

Containers made up of glass

- Chemically-resistant
- Heat-resistant



**Beaker**



**Conical flask**



**Funnel**



**Boiling flask  
Round bottom flask**



**Burette**



**Volumetric  
flask**



**Measuring  
cylinder**



**Pipettes**



**Reagent bottle**

**Never eat or drink inside the lab**



**Do not taste any chemical**

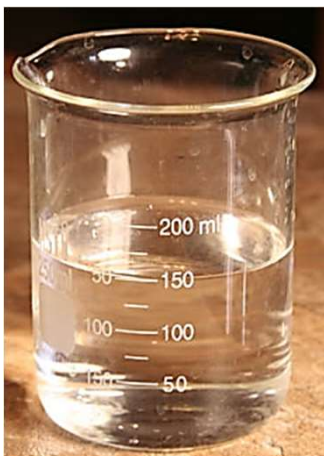
**Do not smell any chemical directly**

**For volatile compounds, work inside a fume hood**



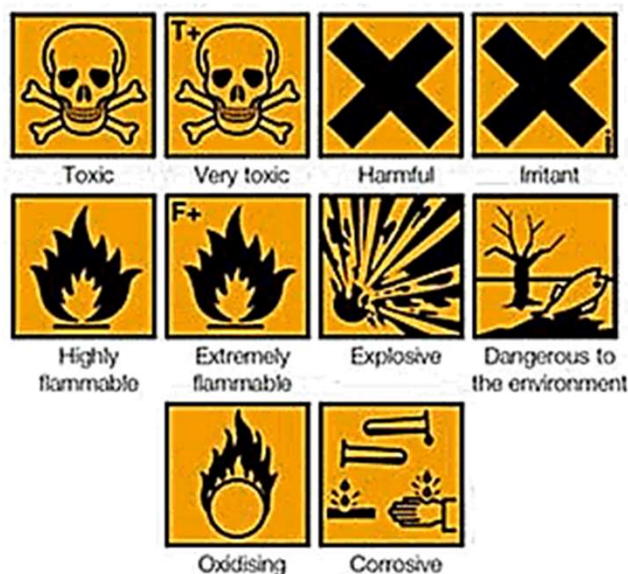
Image courtesy: <http://mymood.altervista.org/learning/learning-english/49-english-for-science/62-lab-safety-rules>

# Label the chemicals, reagents, solutions properly



Water or  
Sulphuric acid?

## Hazard Pictograms



Old Hazard Symbols



New Hazard Symbols

## GHS

(Globally Harmonized System of Classification  
And Labeling of Chemicals)

Image courtesy: [www.onsafelines.com](http://www.onsafelines.com)

**Do not carry out any unauthorized experiment.  
Never work alone in the laboratory.**

**Clean the workplace after use.**

**Clean any spillage promptly if you know HOW to.**

**If you don't know, contact your instructor immediately  
and report the spillage.**



# Working with Liquids

## ❖ Mixing of Liquids

**NEVER** pour water into acid

**Pour** acid into water



## ❖ Transferring Liquids

**Use** glass rod or funnel to prevent splashing/spillage



Image courtesy: [www.mysafetysign.com](http://www.mysafetysign.com), [theawesomeworldofchemistry.wordpress.com](http://theawesomeworldofchemistry.wordpress.com)

# Know the safety equipments, their locations and usage



**Fire extinguisher**



**Eye wash fountain**



**Shower with  
Eye wash fountain**



**Emergency exit sign**

Image courtesy:  
[www.peshcosafety.com](http://www.peshcosafety.com),  
[www.gentworks.co.uk](http://www.gentworks.co.uk), [www.firstaidsigns.com](http://www.firstaidsigns.com)

Refer lab manual for additional information

**Thank You**