



Department of Anesthesia Techniques

Title of the lecture:- Chemistry Safty

Asst. Lec. Zenab M. Najem

Asst. Lec. Halah T. Mohammed

[Halah.thamer@mustaqbal-college.edu.iq](mailto:Halah.thamer@mustaqbal-college.edu.iq)



## ***1-Basic Safty***

Science lab is a place of doing experiments and learning, but it must be stay safe and alert at all times because there are many hazards in lab.

**So the basic safety rules include:**

- 1-**Never run in the lab or engage practical jokes.
- 2-**Never eat, drink, or smoke while working in the lab
- 3-**Never work or touch anything in the lab without the supervision of an instructor.
- 4-**Listen to or read instructions carefully before attempting to do anything.
- 5-**Keep your work area uncluttered (Take to the lab station only what is necessary) and clean it at the end of experiment.
- 6-**Keep bags away from burners.

## ***2-Personal Safty***

When you working in a science lab, you must always:

- Wear a lab coat, gloves and goggles

1. **Goggles:** to protect your eyes from chemicals, heated materials and things that might be able to shatter.
2. **Lab coat:** to protect you from chemical spills. Must be worn properly.



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3. **Gloves:** to protect your hands when handling chemicals (using any hazardous or toxic agents)

### 3-Chemical Safety

1. Always it must be know the chemicals that you are working with and the hazards may be causing.

**Material Safety Data Sheets (MSDS)** must be on file and available for each chemical in the lab.

**MSDS** lists:

- Product Identit
- Hazardous Ingredients
- Physical Data
- Fire & Explosion Hazard Data
- Reactivity Data
- Health Hazard Data
- Precautions for Safe Handling & Use
- Control Measures

2. Follow your teacher directions when using chemicals.
3. During lab work, keep your hands away from your face.
4. Never mix chemicals without your teacher telling to do.
5. Never put anything into your mouth during a lab experiment.
6. Never use mouth pipetting
7. If you need to smell the odor of chemical do not put your nose over the container and inhale the fumes.
8. When diluting acids **avoid** adding the water to the concentrated acid (causing an explosion, which can splash acid on you). **Therefore, you must add acid slowly to water**



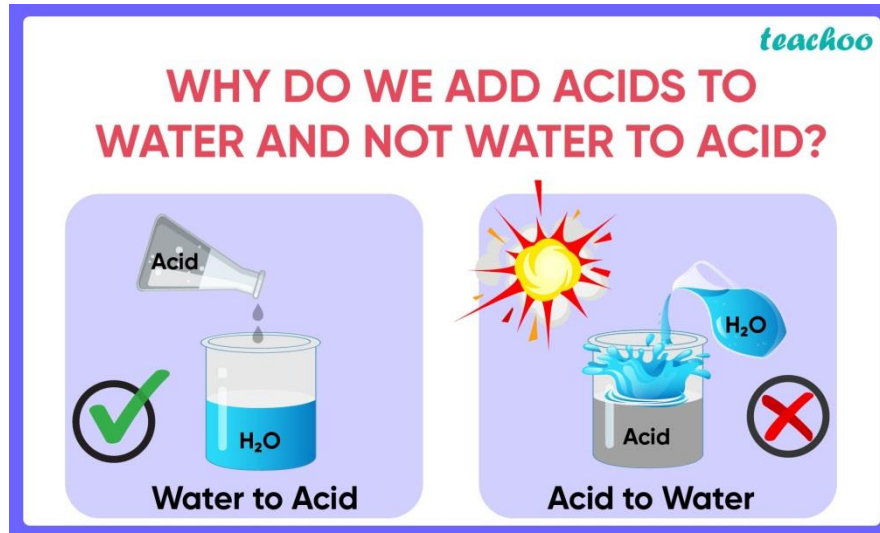
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## 4-First Aid

1. It is important to know the correct way to act if an emergency does occur.
2. It must be know the location of safety equipment, which available in the lab, including **the fire extinguisher, eyewash station and fire blanket.**



**The Eyes:** flush eyes immediately with plenty of water for several minutes.

If a foreign object entered into the eye, do not allow the eye to be rubbed.





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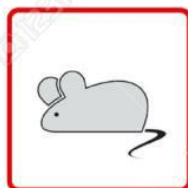
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## 5-Some of hazard signed



Animal hazard



Sharp instrument hazard



Heat hazard



Glassware hazard



Chemical hazard



Electrical hazard



Eye & face hazard



Fire hazard



Biohazard



Laser radiation hazard



Radioactive hazard



Explosive hazard

### HEALTH HAZARD

- 4 - Deadly
- 3 - Extreme danger
- 2 - Hazardous
- 1 - Slightly hazardous
- 0 - Normal material

### FIRE HAZARD

- Flash Point
- 4 - Below 73° F
  - 3 - Below 100° F
  - 2 - Below 200° F
  - 1 - Above 200° F
  - 0 - Will not burn

### SPECIFIC HAZARD

- Oxidizer OXY
- Acid ACID
- Alkali ALK
- Corrosive COR
- Use NO WATER
- Radiation Hazard

### REACTIVITY

- 4 - May detonate
- 3 - Shock and heat may detonate
- 2 - Violent Chemical change
- 1 - Unstable if heated
- 0 - Stable

