



Biochemistry (1111@nur11) – First Stage



Safety in Chemical Laboratory

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Safety in Chemical Laboratory

Chemists understand that working with chemicals and developing new materials and chemical processes involve some degree of risk. Specific incidents in academic, industrial and public setting emphasize the need for clear focus on safety through the chemistry enterprise.

So, we need to focus on the following items:

Safety Culture, RAMP and Terminology.



Safety in Chemical Laboratory

1- Safety Culture:

Devastating incidents in labs reminds us that safety requires constant and systematic attention. "Safety is everyone's responsibility", this sentence reflects the safety ethics. It is a simple reminder that safety culture is personal and everyone has a role ensuring a safe environment for all.



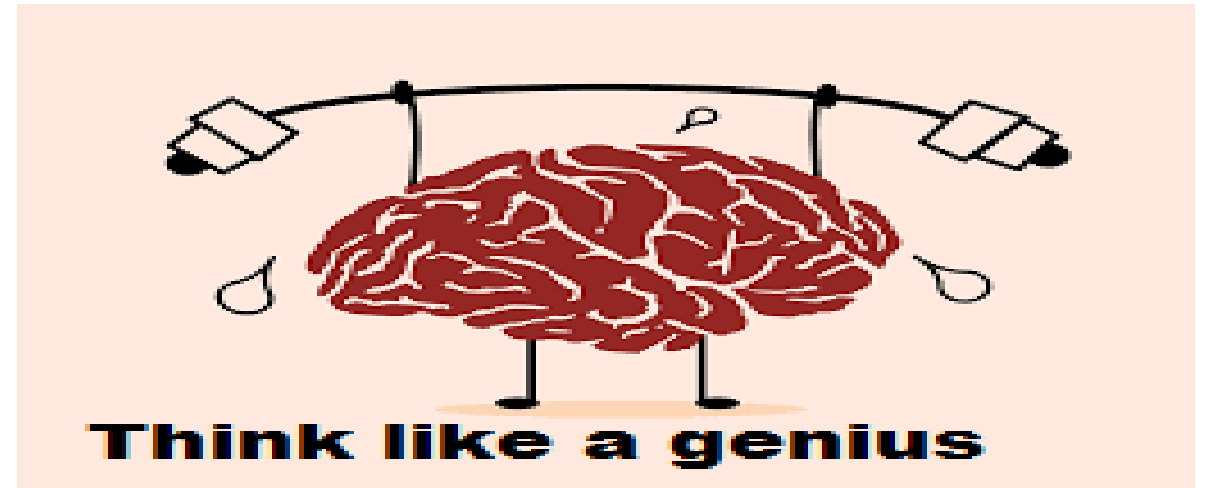
Safety in Chemical Laboratory

2- RAMP (Recognize, Assess, Minimize & Prepare)

Strong safety cultures manage safety consistently and systematically. Management requires methods for understanding situations, environments and materials. So, RAMP is a mnemonic to enable all of us to remember four key principles of safety:

- 1) **R** = **R**ecognize the hazard.
- 2) **A** = **A**ssess the risks of hazards.
- 3) **M** = **M**inimize the risks of hazards.
- 4) **P** = **P**repare for emergencies.

RAMP must be simple, structured, flexible, scalable, collaborative and transferrable.



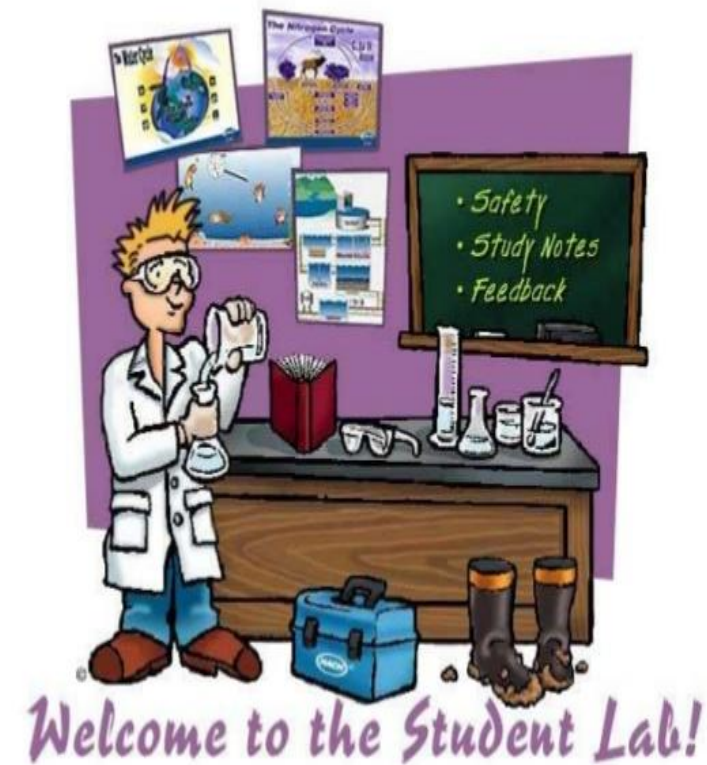
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3- Terminology

Managing safety requires understanding of key terms:

- a) **Safety:** Freedom from danger, injury or damage.
- b) **Hazard:** A potential source of danger or harm.
- c) **Risk:** The probability of suffering harm from exposure to an unsafe situation.
- d) **Exposure:** Coming in direct contact with a hazard.

Lab Safety



Safety in Chemical Laboratory

Some of Biochemistry Lab Safety Symbols



Wear Lab Coat



Biohazard



Don't Touch



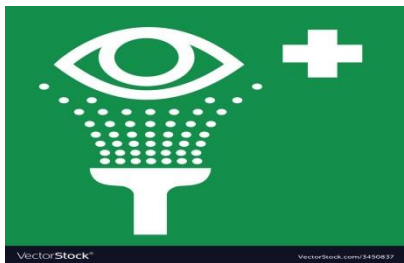
Harmful Irritant



Flammable Chemical



High Voltage



Eye Wash



Don't Eat or Drink



Hot Surface



Radiation Warning



Wear PPE



Fire Extinguisher

Safety in Chemical Laboratory

Some of Biochemistry Lab Instruments & Equipment



Centrifuge



Spectrophotometer



ELISA



Pipette



Tip



Cuvette



Blood Sample Tube



Urine Sample Tube



Syringe



**Multichannel
Pipette**



Sharps Container



Tourniquet

