

جامعة الانبار-كلية العلوم-قسم التقنيات الاحيائية
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محاضرة رقم 1

Introduction: Definitions and concepts

- ❖ **Risk:-** A combination of the probability of occurrence of harm (injury, illness, .. death, damage etc) and the severity of that harm.

1- **Hazard**

:- A source, situation, or act with a potential for causing harm. At workplace categorized: Physical, Chemical and Biological

1- **Chemical:-**

- a- Smoke.
- b- Toxic material.

2- **Physical:-**

- a-Moving road tankers.
- b- Noise.

3-**Biological:-**

- a-Toxicological lab.

❖ **Biohazard:-** The potential source of harm caused by biological agents or toxins

❖ **Biosafety:-**The set of containment principles, technologies and practices that are .

. to prevent exposure to biological agents . and toxins, or . their accidental release.

❖ **Biosecurity:-**The set of measures taken to limit the threat posed by sudden .

❖ **Laboratory safety symbols and hazard signs:.**

A-Laboratory safety symbols:-

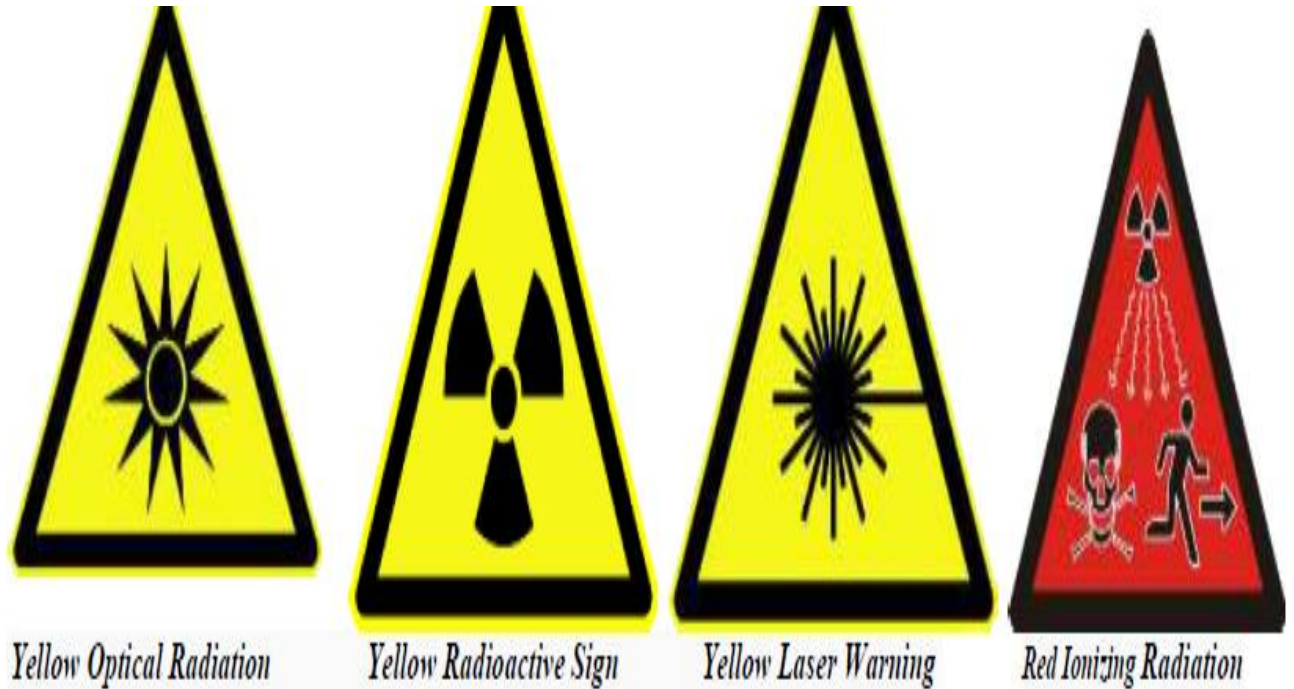
1- Green Eyewash Sign:- this sign to indicate the location of an eyewash station.



2-Green First Aid Sign:- Lab Safety Signs Use this symbol to identify the location of a first aid station.



3-Radiation Symbol:- This radiation symbol it is easy to recognize the significance of the symbol.



Blue Respiratory Protection:- This sign tells you respiratory protection is required



5- Blue Gloves:- This sign means you need to wear gloves or other hand protection.

6-Blue Protective Clothing:- This symbol indicates mandatory use of protective clothing



B- Hazard Symbols :-

1-Health Hazard: A cancer-causing agent (carcinogen) or toxicity substance to respiratory system , reproductive system and organs.



2-Flame: Flammable materials or substances liable to self-ignite when exposed to water or air (pyrophoric).



3- **Gas Cylinder:** Gases stored under pressure, such as ammonia or liquid nitrogen.



4- **Corrosion:** Materials causing skin corrosion/burns or eye damage on contact.



5- **Flame Over Circle:** Identifies oxidizers. Oxidizers are chemicals that facilitate burning or make fires burn hotter and longer.



6- **Skull and Crossbones:** Substances, such as poisons and highly concentrated acids, which have an immediate and severe toxic effect (acute toxicity).



Reference

1-Astuto-Gribble, L.M. & Caskey, S.A. 2014. Laboratory Biosafety and Biosecurity Risk Assessment Technical Guidance Document (No. SAND2014- 15939R). Sandia National Lab. (SNL-NM), Albuquerque, NM (United States).

2-World Health Organization Staff & World Health Organization. 2004. Laboratory biosafety manual. 3 rd. ed. World Health Organization