

LAB SAFETY

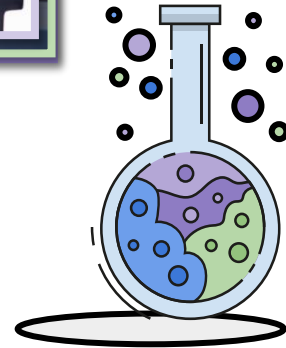
Laboratory and Safety Committee

LAB SAFETY can be divided to:

1 Before the entrance to the laboratory

2 Working in the laboratory

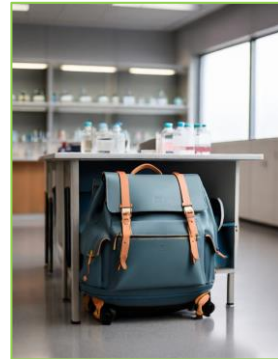
3 After finishing the work



**No backpacks or purses at
the lab tables**



**The bags are placed under
the laboratory table**



Before the entrance to the laboratory

Put your phone in silent

1

Wear closed shoes

3

Wear lab coat

5

2

Food and drinks are not allowed

4

Don't wear lenses

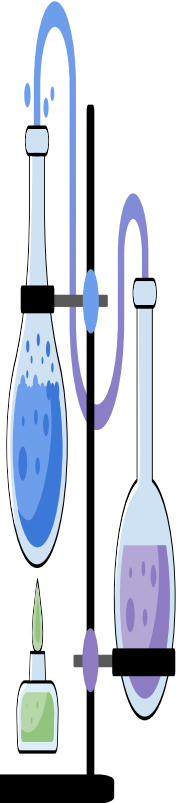
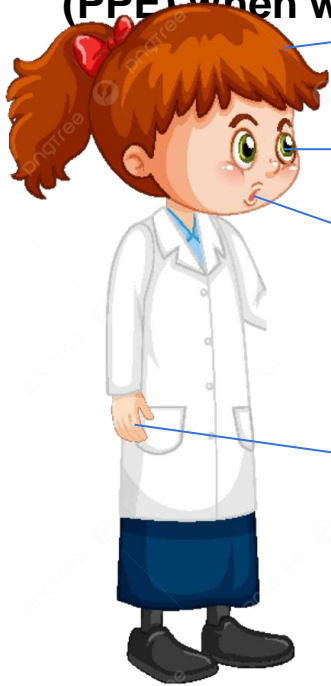
6

Tie your hair



Working in the laboratory

Wear proper personal protective equipment (PPE) when working in the lab.



Know the location of the following...

**Fire
extinguisher**



Eyewash

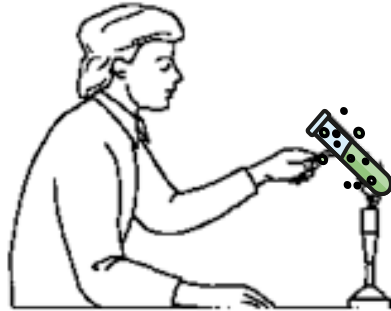


**Fire
blanket**

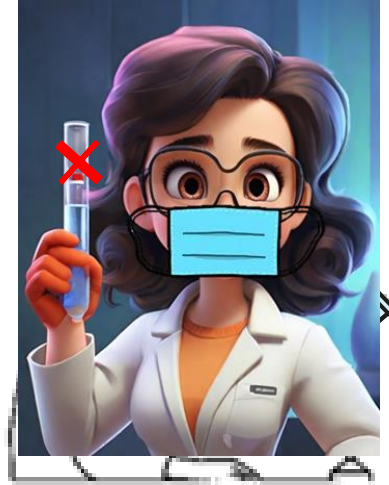


Heating test tube

- **NEVER** point the mouth of a test tube or Erlenmeyer flask at yourself or another person.
- **ALWAYS** direct the mouth away from people.
- **DON'T** cover the mouth of the test tube with your hand.
- **Shake** the test tube carefully.



WRONG



CORRECT



**Never use chemicals from an
unlabeled container**



Clean up all spills immediately



Never return spilled or unused material to the reagent bottle.



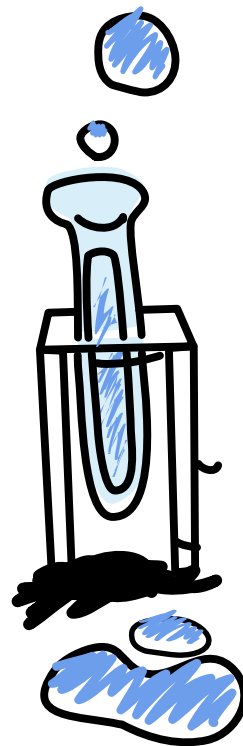
Small liquid spills should be diluted with lots of **water** and mopped up with a cloth towel.



Large spills must be handled by the **instructor**.



Solids should be swept up and placed in the **waste disposal container** for that lab.



Begin First Aid Immediately

1. Alert the instructor.
2. If chemicals have come in contact with the eyes, begin eye washing **NOW**.
3. Remove clothes that have chemicals contamination.
4. Move everyone away from the area to avoid further contamination.
5. Report all injuries to your instructor immediately
6. If chemicals spill in your hand, clean it with cold water.



CHEMICAL HAZARD SYMBOLS

Chemical hazard symbols are found on some home products, as well as bottles of chemical reagents in the lab. Here, we take a look at European hazard symbols and the various dangers that they warn of.



ENVIRONMENTAL HAZARD

Indicates substances that are toxic to aquatic organisms, or may cause long lasting environmental effects. They should be disposed of responsibly.



ACUTELY TOXIC

Indicates life-threatening effects, in some cases even after limited exposure. Any form of ingestion and skin contact should be avoided.



GAS UNDER PRESSURE

Container contains pressurised gas. This may be cold when released, and explosive when heated. Containers should not be heated.



CORROSIVE

May cause burns to skin and damage to eyes. May also corrode metals. Avoid skin & eye contact, and do not breathe the vapours.



EXPLOSIVE

May explode as a consequence of fire, heat, shock or friction. Chemicals with this label should be kept away from potential ignition sources.



FLAMMABLE

Flammable when exposed to heat, fire or sparks, or give off flammable gases when reacting with water. Ignition sources should be avoided.



MODERATE HAZARD

May irritate the skin, or exhibit minor toxicity. The chemical should be kept away from the skin and the eyes as a precaution.



OXIDISING

Burns even in the absence of air, and can intensify fires in combustible materials. Should be kept away from ignition sources.

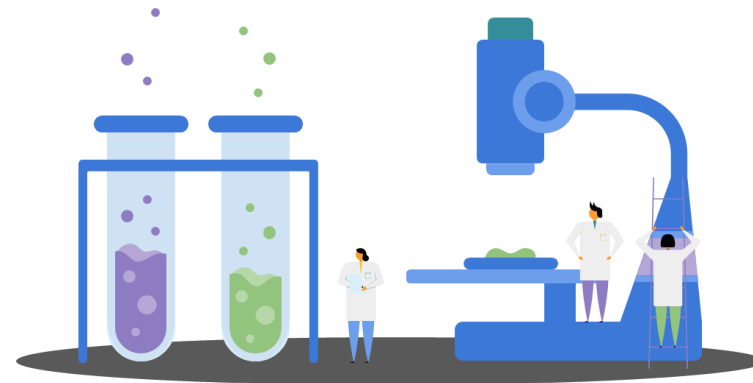


HEALTH HAZARD

Short or long term exposure could cause serious long term health effects. Skin contact and ingestion of this chemical should be avoided.



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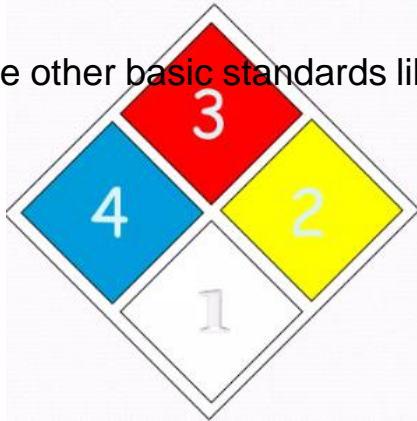


The national fire protective agency (NFPA)

NFPA: is specific system for identifying the hazards association with material.

Color Coded Label System

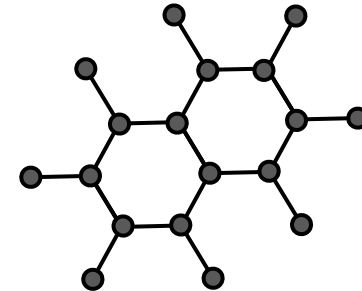
NFPA-type label



There are other basic standards like MSDS

Colors represent

- **Red** = fire
- **Yellow** = reactivity
- **Blue** = health
- **white** = specific hazard & personal protection



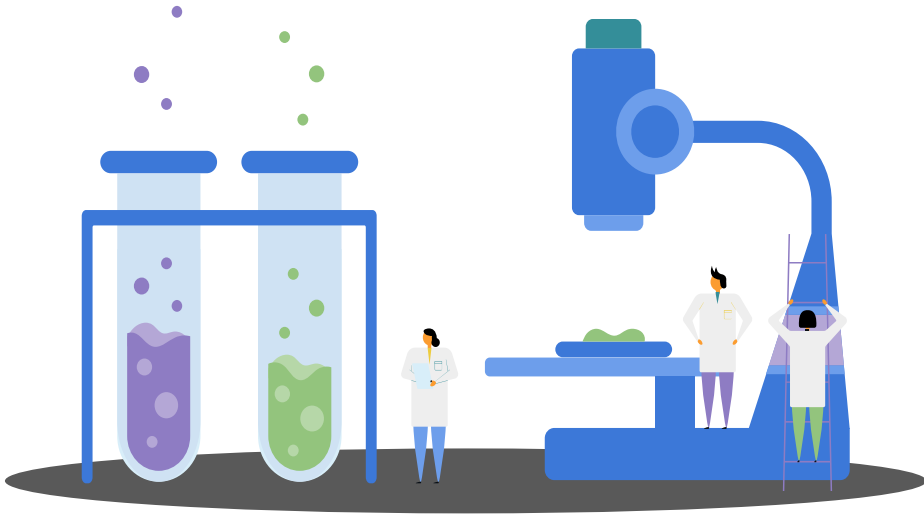
Material safety data sheets (MSDS)



MATERIAL SAFETY DATA SHEET - 9 SECTIONS	
SECTION 1 - PRODUCT INFORMATION	
Product Name Product Use Manufacturer's Name Physical and Mailing Address Emergency Contact Phone Number	WHMIS Classification (optional) Supplier's Name Physical and Mailing Address Emergency Contact Phone Number
SECTION 2 - HAZARDOUS INGREDIENTS	
Hazardous Ingredients (very specific)	
SECTION 3 - PHYSICAL DATA	
Physical State (What does it look like? Is it a liquid, gas, or solid?) What happens to it under a variety of circumstances? (i.e. heat, freezing, dropping, etc.) Flammability and how to extinguish. Includes a wide variety of details concerning how easily this product	
SECTION 4 - FIRE AND EXPLOSION DATA	
will ignite / explode and how to deal with it. How stable is this product?	How it reacts under various conditions.
SECTION 5 - REACTIVITY DATA	
Incompatibility with other substances. Information about how the product affects and enters the body.	Hazardous Decomposition Products Immediate affect. Long term toxic affect.
SECTION 6 - TOXICOLOGICAL PROPERTIES	
Exposure limits. In summery, immediate and long term affects to the human body.	
SECTION 7 - PREVENTIVE MEASURES	
Personal Protective Gear; ventilation, etc.; leak and spill info; waste disposal; handling and storage; special shipping instructions	
SECTION 8 - FIRST AID MEASURES	
Information for immediate first aid treatment. Usually always ends with "contact a Doctor"	
SECTION 9 - PREPARATION INFORMATION / Who prepared this and contact info	



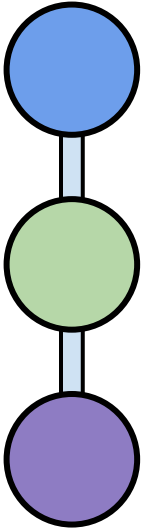
After finishing the work



Wash and dry the glasses and return them to their proper place.

Clean and arrange your bench.

Wash hands with soap and water.



Any questions?





Thank you for
your attention.

