

3.4.3 Corrosives

Corrosive materials are those that cause visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. Corrosives are most commonly acids and alkalis, but many other materials can be severely damaging. Strong oxidizing materials can also cause burns and damage to the eyes and skin. Certain substances considered non corrosive in their natural dry state are corrosive when wet such as when in contact with moist skin or mucus membranes. Examples of these materials are lithium chloride, halogen fluorides, and allyl iodide. Sulfuric acid is a very strong dehydrating agent and nitric acid is a strong oxidizing agent. Dehydrating agents can cause severe burns to the eyes due to their affinity to water. SDS are very helpful to find out if a chemical is corrosive.

- Always store acids separately from bases.
- Store acids in acid storage cabinets away from flammables since many acids are strong oxidizers.
- Never store corrosives above eye level and store them on a low shelf or cabinet.
- Corrosives stored in ordinary metal cabinet will quickly damage it. Store corrosives in a wooden cabinet or one that is corrosion resistant.
- Nitric acid should be stored in a separate cabinet or compartment.

3.4.3.1 Mineral Acids

Oxidizing: Examples: Sulfuric acid, Nitric acid, Chromic acid, Perchloric acid etc.

- Store separately from organic acids.
- Highly reactive with most substances.
- Perchloric acid presents special hazards. Take precautions to isolate it from acetic anhydride, bismuth and its alloys, alcohol, paper, wood, oil, ether, grease, and sulfuric acid. Never keep it near acetic acid.

Non Oxidizing: Examples: Hydrochloric, hydrofluoric, phosphoric, hydroiodic.

- Hydrofluoric is extremely hazardous and requires special attention. It can cause severe burns and inhalation of anhydrous hydrogen fluoride can be fatal.
- Always use hydrofluoric acid in a properly functioning fume hood and always wear personal protective clothing.
- Never store it in a glass container as it is incompatible with glass. Store it separately in an acid storage cabinet and keep only the required amount in lab.
- If you come in contact with hydrofluoric acid, promptly seek medical attention.

3.4.3.2 Organic Acids

Examples: Acetic acid, Butyric acid, Formic acid, Propionic acid.

- Store separately from oxidizing mineral acids.
- Corrosive to metal surfaces.
- Store in a ventilated corrosive storage cabinet if possible.
- Can be stored with organic solvents unless otherwise stated on the SDS.
- Keep Perchloric acid away from acetic acid.