



EHS Fact Sheet

Corrosives (Acids and Bases)

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Definition

Any solid, liquid, or gaseous substance that burns, irritates, or destructively attacks organic tissue or attacks metals or building materials. Some examples:

Inorganic Acids

Hydrochloric Acid

Phosphoric Acid

Sulfuric Acid

Organic Acids

Acetic Acid, Formic Acid

Trichloroacetic Acid

Oxidizing Acids

Nitric Acid, Perchloric Acid

Bases (Hydroxides)

Sodium or Potassium Hydroxide

Ammonia (Ammonium Hydroxide)

Others

Acetic Anhydride

Fluorides and some Chlorides



GHS Pictogram for Corrosive Materials

Usage

- As with any hazardous material, the lab needs to incorporate the hazards and safe handling procedures in the lab operating procedures/protocols.
- As with all lab procedures/protocols, the PI must insure all lab personnel have been trained and the training documented.
- Wear chemical safety goggles, not safety glasses. Wear other appropriate PPE such as gloves and a lab coat. A lab apron may be an appropriate choice.
- Use engineering controls such as fume hoods.
- Segregate acids from bases. Store below eye level.
- Know where the eyewash and safety shower are located and how to use it. Flush for minimum 15 minutes.
- Always add acid to water.
- For compound-specific usage, always consult the substance-specific SDS.

Hazards and Toxicity

- Strong acids and bases can destroy human tissue and corrode metals.
- The effects of the burn can be immediate or delayed.
- Acids and bases are incompatible with each other and need to be segregated.
- Most corrosive materials are non-flammable, except for acetic acid and formic acid. However, nitric acid and perchloric acid are oxidizers and should be segregated from combustible and flammable materials.
- Corrosive materials can have other hazards, however, the corrosivity is usually the primary hazard.
- For compound-specific hazards, consult the SDS for additional information.
- Hydrofluoric acid has unique properties; please consult the EHS Fact Sheet – Hydrofluoric Acid and the Hydrofluoric Acid SDS.

Disposal

- Corrosives needs to routed through the EHS Materials Management section. Please contact EHS for more information.

Spills

- Clean up small spills using absorbent material or an appropriate neutralizing compound (if available).
- Wear appropriate PPE and have adequate ventilation.
- Hydrofluoric acid spills require a special, HF-specific clean up kit. Do not use other absorbents. Consult the EHS Fact Sheet – Hydrofluoric Acid and the Hydrofluoric Acid SDS for more information.
- Collect cleaned up material for waste disposal.
- For large spills, evacuate area and contact EHS.