

Principal Investigator: _____

Date Approved: _____

This document covers basic chemical safety information for corrosives and supplements the laboratory Chemical Hygiene Plan as appropriate. Additional lab-specific safety operating procedures for acutely toxic Corrosives may also be required. The use of any acutely toxic corrosive is subject to pre-approval by the Principal Investigator (PI) and/or the designated Laboratory Responsible Safety Person. DO NOT USE ANY ACUTELY TOXIC CORROSIVE UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL AND TRAINING.

Corrosives are materials that cause the destruction of exposed tissues and mucous membranes. They can be encountered as solids, pure liquids, solutions, or gases. Strong corrosive solutions typically have a pH <2.5 (acids) or >11 (bases) and include inorganic or organic substances dissolved in water. Corrosives cause damage either through the presence of hydronium (H_3O^+) or hydroxide (OH^-) ions in solution, reaction with skin and eye moisture to generate these same ions, or by damaging cell membranes through lipophilic action (e.g., certain detergents). All corrosives can cause serious eye damage or skin burns in the event of an exposure.



Chemicals covered by this CSP **do not** include corrosives with additional hazardous properties (e.g., hydrofluoric acid, nitric acid, corrosive flammables, tetramethylammonium hydroxide, etc.).

Personal Protective Equipment & Personnel Monitoring

**Lab Coat**

Traditional white lab coat and chemical-resistant apron when working with large volumes.

**Gloves**

Nitrile or neoprene gloves. Consult glove selection chart for heavy handling of corrosives.

Do not wear latex gloves.

**Eye Protection**

ANSI Z87.1-compliant safety glasses or safety goggles, or face shield if a splash hazard is present.

**Face Shield**

Labeling & Storage

Store upright & tightly closed in a dry and well-ventilated place. Keep away from incompatible materials (e.g., segregate acids and bases). Consult the safety data sheet for additional storage compatibility information. Always store strong acids and bases in chemically-resistant secondary containers (e.g., polypropylene trays or tubs). Containers holding corrosives must be stored below eye level. Also, if not plainly visible (e.g., through a cabinet window), labeling must be applied to storage locations where these are stored to avoid an inadvertent encounter.

Engineering Controls, Equipment & Materials

Fume Hood

Use a fume hood to keep exposure to corrosives as low as possible. If your protocol does not permit the handling of such materials in a fume hood, contact the Department of Environmental Health, Safety and Sustainability (EHSS) to determine whether additional respiratory protection is warranted.

Housekeeping

Keep acid and/or base neutralizer (e.g., sodium bicarbonate and/or citric acid) in your spill kit.

Spills

Notify others in the area of the spill, including your PI/Responsible Safety Person. If it is a small spill that you can easily handle, use the contents of your lab spill kit to clean it up. If it is a large spill, then evacuate the area where the spill occurred. Call Vanderbilt University Public Safety (VUPS) at 615-421-1911 or use the VandySafe app on your smart phone. Report any exposure through Risk and Insurance Management's Origami portal and mark that it occurred in research when prompted. Both VUPS and the Origami system will notify EHSS of the incident. Remain on site at a safe distance to provide detailed information to first responders.

Decontamination

Clean contaminated surfaces with soap and water. Dispose of contaminated paper towels as solid hazardous waste.

Waste

Refer to the laboratory *Chemical Hygiene Plan* (Section 6.7) for information on proper chemical waste disposal procedures.

Some facilities have acid neutralization systems in drains that can allow for certain corrosive materials to be disposed of via the sewer. Contact EHSS for guidance.

First Aid & Emergencies

Skin or Eye Contact

Remove contaminated clothing and accessories; flush affected area with water. If symptoms persist, get medical attention.

Inhalation

Move person into fresh air. If symptoms persist, get medical attention.

Ingestion

Rinse mouth with water. If symptoms persist, get medical attention.

