UNIVERSITY OF NORTH CAROLINA CHARLOTTE | ENVIRONMENTAL HEALTH & SAFETY

Standard Operating Procedure

Corrosives

Principal Investigator: _____ ***Date Approved:*** _____

This document covers basic chemical safety information for corrosives. The use of any corrosive chemical is subject to pre-approval by the Principal Investigator (PI) and/or Supervisor. PI and/or Supervisor may use the sheet attached to this SOP to document any lab specific training for Corrosives. DO NOT USE CORROSIVES UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.

Corrosives

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 SOP **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**	 **Gloves**	 **Eye Protection**	 **Face Shield**
Traditional white lab coat and chemical-resistant apron when working with large volumes.	Nitrile or neoprene gloves. Consult manufacturer's glove selection chart for heavy handling of corrosives. **Do not wear latex gloves.**	ANSI Z87.1-compliant safety glasses or safety goggles, and face shield if a splash hazard is present.	

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. Primary containers should be labeled according to the UNC Charlotte Chemical Hygiene Plan. The secondary container's label must contain the chemical name and corresponding hazards. 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 handing of such materials in a fume hood, contact EHS to determine whether additional respiratory protection is warranted.

Housekeeping

Spills

Keep acid and/or base neutralizer (e.g. sodium bicarbonate and/or citric acid) in your spill kit. Notify others in the area of the spill, including your supervisor. If the volume is small (<100 mL) and there is no inhalation hazard, refer to the UNC Charlotte Chemical Spill Procedures found on the EHS website.

For **large spills**, evacuate the location where the spill occurred. Call 911 from any campus phone (or 704-687-2200 from a cell phone). Report any exposure to EHS at 704-687-1111. 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 UNC Charlotte Chemical Hygiene Plan for details.

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.

Name	Signature	Date