

Principal Investigator: _____




Date Approved: _____

This document covers basic chemical safety information for acutely-toxic water reactives. The use of any acutely toxic water reactive 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 Acutely Toxic Water Reactive Chemicals. **DO NOT USE ACUTELY TOXIC WATER REACTIVES UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.**

Acutely Toxic Water Reactive Chemicals

Water reactive materials are chemicals that may react violently with water. If this reaction produces a toxic gas the material may be acutely toxic in addition to being water reactive. Typical toxic gases produced are: H₂S, NH₃, PH₃, HCN, HF, HCl, SO₂, and SO₃.



Personal Protective Equipment & Personnel Monitoring		
 Lab Coat	 Gloves	 Eye Protection
Traditional lab coat or flame-resistant lab coat when working with flammable materials.	Nitrile or neoprene gloves typically provide adequate protection against minor splashes. Consult with your PI or supervisor to determine whether any materials involved in your process require alternative hand protection.	ANSI Z87.1-compliant safety glasses or safety goggles if a splash hazard is present

Labeling & Storage

Store these materials in secondary containment in a dry place away from moisture/humidity, heat sources and other incompatible chemicals such as acids. Primary containers must be labeled according to the UNC Charlotte Chemical Hygiene Plan. The secondary container's label must contain the chemical name and corresponding hazards. Also, if not plainly visible (e.g. through a cabinet window), labelling must be applied to storage locations where these are stored to avoid an inadvertent encounter.

Engineering Controls, Equipment & Materials

Glove Box

Work under an inert atmosphere (e.g. argon, nitrogen) in a glove box

Fume Hood

Work in a chemical fume hood away from any water sources. If your protocol does not permit the handling of such materials in a fume hood, contact EHS to determine whether additional respiratory protection is warranted.

Housekeeping

Spills

Notify others in the area of the spill, including your supervisor. 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

Decontamination methods will vary based on the materials handled and equipment being used. Please review the chemical SDS for guidance on cleaning materials.

Waste

Acutely toxic water-reactives should be collected in sealed containers free from water and disposed of as hazardous waste.

First Aid & Emergencies

Fire

DO NOT use water to put out fire, instead use a Class B fire extinguisher.

Skin Contact

Immediately remove contaminated clothing and shoes; flush skin with water for at least 15 minutes. Get medical attention immediately.

Eye Contact

Check for and remove contact lenses. Immediately flush eyes with water for at least 15 minutes. Get medical attention immediately.

Inhalation

Move person into fresh air. Get medical attention immediately.

Ingestion

Get medical attention immediately.

