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

This document covers basic chemical safety information for water reactives. The use of any 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 Water Reactives. DO NOT USE WATER REACTIVES UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.

Water Reactive Chemicals

Water reactive chemicals are materials that may react violently with an aqueous solutions or atmospheric moisture to produce a flammable or toxic gas and heat. Typical gases produced are: hydrogen gas (H_2), methane (CH_4) and other low molecular weight hydrocarbons.

Personal Protective Equipment & Personnel Monitoring		
 **Lab Coat**	 **Gloves**	 **Eye Protection**
Flame resistant lab coat.	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 in secondary containment in a dry place away from moisture/humidity, heat sources any other materials that may be chemically incompatible. It is advisable to store water reactive materials inside of a desiccator or glove box. Mineral oil can be used to help keep alkali metals and metal hydrides dry. 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. 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

If a glove box is unavailable or impractical, work in a chemical fume hood away from any water sources. 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

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

Avoid using water. Please review the chemical Safety Data Sheets for guidance on cleaning specific materials.

Waste

Water reactive materials are often quenched before disposal, though this is not generally a requirement of UNC Charlotte's Hazardous Waste Management Program. Refer to the chemical SDS for disposal requirements or contact EHS for assistance.

First Aid & Emergencies

Fire

DO NOT use water to put out fire, instead use a dry chemical or Class D fire extinguisher

Name	Signature	Date