

Principal Investigator: _____

Date Approved: _____

This document covers basic chemical safety information for corrosive water reactives and supplements the laboratory Chemical Hygiene Plan as appropriate. The use of any corrosive, water reactive chemical is subject to pre-approval by the Principal Investigator (PI) and/or designated Laboratory Responsible Safety Person. DO NOT USE CORROSIVE WATER REACTIVES UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.

Corrosive Water Reactives

Water reactive materials are chemicals that may react violently with aqueous solutions or atmospheric moisture to produce a flammable or toxic gas and heat. Some of these materials will react with water in living tissues to produce hydroxide ions capable of causing permanent damage. Substances with these characteristics are considered corrosive water reactives. Examples include Grignard reagents, alkali metals and their hydrides, and boron trifluoride reagents.



This CSP excludes potassium metal and pyrophoric chemicals.

Personal Protective Equipment & Personnel Monitoring



Lab Coat

Wear a 100% cotton lab coat. If your protocol also involves flammable materials, wear a lab apron over a flame-resistant lab coat.



Gloves

Neoprene gloves are recommended.
Do NOT wear latex gloves.



Eye Protection

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

Labeling & Storage

Keep containers upright & tightly closed in a dry, well-ventilated place below eye level. Store in secondary containment away from moisture/humidity, heat sources, aqueous solutions, and any other materials that may be chemically incompatible. Labels identifying the materials as Water Reactive must appear on the bottles and secondary containers. 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

Handling of these materials in a glove box with a dry, inert, positive pressure atmosphere is recommended.

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, please contact the Department of Environmental Health, Safety and Sustainability (EHSS) for further guidance.

Housekeeping

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

Rinse work surfaces with isopropyl alcohol prior to washing with soap and water.

Waste

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

First Aid & Emergencies

Skin Contact

Immediately remove contaminated clothing and shoes; flush skin with water in a safety shower 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.

