



Water Reactive Chemicals

Water reactive chemicals are materials that may react violently with aqueous solutions or atmospheric moisture to produce a flammable or toxic gas and heat. Typical gases produced are: H₂, CH₄ and other low molecular weight hydrocarbons.



Personal Protective Equipment & Personnel Monitoring



Lab Coat

Flame resistant lab coat



Gloves

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.



Eye Protection

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

Labeling & Storage

Store upright & tightly closed in a desiccator, glove box, or some other dry place away from water/humid environments, heat sources, and any other chemically incompatible material. Many chemicals that fall within this class are incompatible with most other hazard classes so it is advisable to keep them away from all other chemicals (aside from compatible pyrophoric chemicals). These materials should not be stored near any water source such as a sink, safety shower, eyewash, or out in the open on a lab bench if the laboratory has sprinkler heads. Consult the safety data sheet for additional storage compatibility information. Many water reactive chemicals will come from the manufacturer in plastic bags or metal cans; it is best to keep the reagents inside of these secondary containers even when these materials are designated for a hazardous waste pickup.

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 the use of a fume hood is impossible or impractical, please contact the Office of Research Safety (ORS) to determine whether additional respiratory protection is required.

Housekeeping

Spills

Notify others in the area of the spill, including your supervisor. Evacuate the location where the spill occurred and call 911. Any exposure must be reported to ORS at 706-542-5288. Remain onsite at a safe distance to answer questions from first responders.



Decontamination

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

Waste

Any waste from this chemical class should be disposed of through the UGA Hazardous Waste Program. For assistance with arranging a waste pickup, you may contact the Environmental Safety Division (ESD) at 706-542-5801. Prior to pickup, any container used to hold hazardous waste should be labeled with the following:

- "Hazardous Waste"
- chemical contents
- one or more of the following waste characteristics recognized by EPA: Ignitable, Corrosive, Reactive, or Toxic

In addition, any liquid hazardous waste must be stored in secondary containment trays until picked up by ESD.

First Aid & Emergencies

Fire

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

Skin or Eye Contact

Remove contaminated clothing and accessories and wipe any particles from skin immediately; flush affected area with water for at least 20 minutes Get medical attention.

For eye contact, flush with water for 20 minutes. Get medical attention.

Inhalation

Move person into fresh air. If not breathing, give artificial respiration. Get medical attention.

Ingestion

Do not induce vomiting. Rinse mouth with water. Get medical attention.