



Pyrophoric and Self-heating Materials

A pyrophoric material is defined by the National Fire Protection Agency (NFPA) as having an autoignition temperature below 130°F (55°C). A self-heating material is one which reacts with air, in the absence of external energy, to produce heat. Self-heating materials may ignite if stored in large quantities. These materials typically also react violently with water. Because of this, pyrophoric and self-heating materials must always be handled under inert atmosphere.



Personal Protective Equipment & Personnel Monitoring



Lab Coat

Flame resistant lab coat.



Gloves

Fire-resistant hand protection (e.g. chloroprene gloves over flame-resistant glove liners).



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, a flammable storage cabinet, or in a refrigerator rated for flammable storage away from incompatible materials (e.g., strong oxidizers, strong corrosives, and water/aqueous solutions). 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 pyrophorics 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

Whenever possible, pyrophorics should be handled inside of a glove box.

Fume Hood

If work must be done in a fume hood, a Schlenck line inside of a fume hood may be used to provide an inert atmosphere for working with pyrophorics.

Housekeeping

Spills

If pyrophoric materials spill in a glove box, quench the spilled material slowly with isopropanol. Absorb with a non-combustible absorbent, and dispose as hazardous waste.

If pyrophoric materials spill outside of a glove box, a Class D fire extinguisher may be used to extinguish a small fire. If you do not feel comfortable extinguishing the fire, evacuate the location where the spill occurred and call 911. Any exposure or discharge

of a fire extinguisher must be reported to ORS at 706-542-5288. Remain onsite at a safe distance to answer questions from first responders.

Quenching

Do not return unused pyrophoric materials to their original container. Unused pyrophoric materials must be quenched under inert atmosphere with adequate cooling by slowly adding first isopropanol, then methanol, then water. These materials must then be disposed of as hazardous waste.

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 Class B fire extinguisher.
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. Get medical attention.
Ingestion	Rinse mouth with water. Get medical attention.