

Investigator: General Safety

Location: EHS

Revision: 1.0

	Standard Operating Procedure <b>Reactive Chemicals</b>		Page 2 of 7
	Investigator: General Safety	Location: EHS	Revision: 1.0

- 4.2 **Pyrophoric materials** ignite spontaneously when exposed to oxygen and/or moisture in air at or below 130oF. These must be stored under mineral oil or an inert dry atmosphere depending on the substance. Examples: phosphorus, titanium dichloride, tributylaluminum, sodium, and lithium hydride
- 4.3 **Incompatible materials** must be sufficiently segregated in storage to prevent mixing

	Standard Operating Procedure <b>Reactive Chemicals</b>		Page 3 of 7
	Investigator: General Safety	Location: EHS	Revision: 1.0

particularly dangerous if peroxides are present during a distillation, where the applied heat to the concentrated solution may trigger a violent explosion. Equally dangerous is to allow a container of this material to evaporate to dryness, leaving the crystals of peroxide at the bottom of the container. Some materials, such as ethers, form peroxides when exposed to air or light. Date these containers when new and dispose as hazardous waste within six months after opening.

## 5.0 PLANNING

- 5.1 Consult with PI regarding need for prior approval. Laboratory personnel shall seek and the PI must provide prior approval of any chemical usage involving highly reactive chemicals. If the reaction has never been performed by someone in the lab then EHS performed

DOC #	Active Date: 06/027/2012	Retired Date:
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Standard Operating Procedure <b>Reactive Chemicals</b>		Page 6 of 7
Investigator: General Safety	Location: EHS	Revision: 1.0

- 8.5 The empty container, solvent rinses and water rinse should be disposed as hazardous waste and should not be mixed with incompatible waste streams.
- 8.6 All materials disposable gloves, wipers, bench paper, etc. - that are contaminated with pyrophoric chemicals should be disposed as hazardous waste.
- 8.7 The contaminated waste should not be left overnight in the open laboratory but must be properly contained to prevent fires.

## 9.0 CONTINGENCIES:

- 9.1 In case of a fire, explosion, or gas leak evacuate individuals from the area and call the emergency response (911). Notify supervision and adjacent personnel as quickly as possible. Observe appropriate procedures for personal injury or fire as provided in EHS Web site.
- 9.2 In case of a chemical spill, alert others in the immediate vicinity and notify your supervisor. Determine the severity of the spill and proceed as appropriate. Small spills may be cleaned up by laboratory personnel. For spills outside of containment, fires, or explosion notify (578-5640) and Campus Police (911 or 578-3231). If possible to do so safely (without risk of over-exposure), take action to stop the release. Ensure that extraneous personnel remain at a safe distance until the spill is completely cleaned-up

## 10.0 EXAMPLES (This list is not comprehensive.)

### 10.1 Shock, Temperature, Pressure Sensitive

Ammonium perchlorate  
 Azo and diazo compounds  
 Acetylides  
 Azides  
 Fulminates  
 Hydrogen peroxide solutions (91% by weight)  
 Many organic peroxides  
 Nitro and nitroso compounds  
 Nitrate esters  
 Perchloric acid solutions (over 72.5% by weight)  
 Picric acid  
 Picrate salts  
 Triazines  
 Some epoxy compounds

DOC #	Active Date: 06/027/2012	Retired Date:
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	Standard Operating Procedure <b>Reactive Chemicals</b>		Page 7 of 7
	Investigator: General Safety	Location: EHS	Revision: 1.0

**10.2**

DOC #	Active Date: 06/027/2012	Retired Date:
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