

# Oxidizers

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Oxidizing chemicals are liquid or solid materials that promote combustion. They may spontaneously give off oxygen at room temperature or with slight heating. Strong oxidizers are capable of forming explosive mixtures when mixed with combustible, organic or easily oxidized materials. Examples include concentrated hydrogen peroxide, permanganates, chromates, and chlorates.



## Personal Protective Equipment & Personnel Monitoring



Regular lab coat. A flame resistant lab coat is recommended if working with oxidizers in close proximity with flammable materials.



Neoprene or butyl rubber 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 away from organics, flammables, reducing agents, and any other materials that may be chemically incompatible. **Do not** store oxidizers in untreated wooden cabinets. It is a best practice to segregate oxidizers from all other chemical classes because of their high reactivity potential with a broad range of chemicals. Consult the safety data sheet for additional storage compatibility information.

#### Engineering Controls, Equipment & Materials

At a minimum, adequate general laboratory ventilation must be provided to<br/>maintain exposure below any regulatory limits. Use of a fume hood is<br/>recommended. If you are concerned that your lab is not appropriately ventilated,<br/>contact the Office of Research Safety (ORS) to determine whether additional<br/>respiratory protection is warranted.



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Spills	Most spills of oxidizers can be cleaned up using non-combustible absorbents and disposed of as hazardous waste. Laboratory personnel should refer to the Spill Control Guidelines document for additional information.		
Decontamination	Once any standing material has been wiped away, clean contaminated surfaces with soap and water. Dispose of contaminated paper towels as solid hazardous 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: Enough detail should be provided so that the full contents of the container are readily apparent. Labeling may include any of the following:		
	• Percentages (Ex: 70% water, 30% hydrochloric acid)		
Mosto	• Volumes (Ex: 1L of acetone, 500mL of water)		
waste	Chemical classes (Ex: halogenated solvents)		
	• Method (Ex: EPA 515.1 Herbicide Extraction Solvent Waste)		
	• Referenced Log (Ex: See Laboratory Waste Log, Volume 2)		
	Utilizing Chematix waste profiles		
	<ul> <li>Any other labeling method providing enough detail to accomplish this requirement</li> </ul>		
	<ul> <li>One or more of the following waste characteristics recognized by EPA: Ignitable, Corrosive, Reactive, or Toxic.</li> </ul>		

## First Aid & Emergencies

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. If symptoms persist, get medical attention.

**Ingestion** Rinse mouth with water. If symptoms persist, get medical attention.

References

<u>Prudent Practices in the Laboratory: Handling and Management of Chemical Hazards</u>, National Research Council, 2011

University of California – Center for Laboratory Safety

Contacts

Office of Research Safety: 706-542-5288 Environmental Safety Division: 706-542-5801