

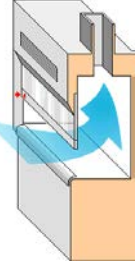






Duke OESO Guidelines for Safe Use of OXIDIZERS



Examples: oxygen, nitrous oxide, peroxides, nitrates, chlorites, hypochlorites, chlorates, perchlorates, permanganates, chromates, dichromates

Hazards	Potential Hazards	<ul style="list-style-type: none"> Can initiate or promote combustion in other materials, usually through release of oxygen. Many oxidizers are also corrosive. See Corrosives Guidelines for  See Safety Data Sheet (SDS) for specific hazard information. <i>A lab-specific SOP is needed for oxidizers that are particularly hazardous, including nitric and perchloric acids; cleaning solutions aqua regia and piranha; and hydrogen peroxide >30%.</i>
	Selection & Purchase	<ul style="list-style-type: none"> Purchase the smallest containers at the lowest concentration practical. Purchase in shatter-resistant containers if available (such as plastic or PVC-coated glass).
Hazard Controls	Storage & Transportation	<ul style="list-style-type: none"> Store away from flammable and combustible materials in a cool, dry location. Store below eye level but not on the floor. Do not use corks or rubber stoppers. Do not store on wooden shelves or in wooden cabinets. See SDS for specific storage incompatibility information. Transport oxidizers in a bottle carrier. 
	Engineering Controls	<p>Work in a chemical fume hood when:</p> <ul style="list-style-type: none"> Performing reactions that may generate heat, gases, or toxic or irritating fumes. Working with inhalation hazards.  <p>If corrosive:</p> <ul style="list-style-type: none"> An eyewash is required in immediate work area. Eyewash-drench hose preferred. Safety shower may be required when using large quantities. 
	Work Practice Controls	<ul style="list-style-type: none"> Use caution when mixing oxidizers with flammable or combustible materials. Mixing smaller quantities may reduce generation of heat and help control the reaction.
	Personal Protective Equipment (PPE)	<p>Minimum PPE:</p> <ul style="list-style-type: none"> Fastened lab coat, safety glasses, and nitrile gloves. <p><i>If applicable, see guidelines for corrosives.</i></p> <p>Risk of splash/large amounts, ADD:</p> <ul style="list-style-type: none"> Chemical splash goggles and face shield Impervious apron & sleeves (or coverall) Thicker chemical-resistant gloves <p><i>Consult the manufacturer's glove guide for glove effectiveness with the chemical you are using.</i></p> 
Other	Emergencies	See Emergency Response Flip Chart and/or lab specific chemical hygiene plan.
	Waste	Follow above storage guidelines. See lab-specific chemical hygiene plan, Lab Chemical Waste Management Practice , and Drain Disposal Practice .
	Training	Sign signature page in lab-specific plan to indicate review.
	Questions	Contact OESO Occupational Hygiene and Safety at 919-684-5996.