



### Oxidizing Materials

#### Definition

- For lab safety purposes, an oxidizing material (or oxidizer) is defined as a material that may, generally by yielding oxygen, cause or enhance the combustion of other materials (combustible or flammable materials).

#### Examples of Oxidizing Materials:

Nitrates and Nitrites  
Bromates  
Chlorates and Perchlorates  
Chlorites and Hypochlorites  
Persulfates  
Chromates and Dichromates  
Permanganates  
Inorganic Peroxides  
Bleach  
Hydrogen Peroxide  
Perchloric Acid  
Nitric Acid  
Oxygen

- An organic peroxide is a oxidizing material that is an inherently unstable compound containing both oxygen and a fuel.

#### Examples of Organic Peroxides:

Ketone peroxides  
Benzoyl Peroxide

#### Hazards

- The primary hazard of oxidizing materials is the ability to cause, enhance, or support combustion of combustible or flammable materials. This reaction may be spontaneous at room temperature or may occur with slight heating. An oxidizer can cause materials that do not normally burn readily in air to burn rapidly.
- Other hazards. Depending on the particular oxidizing material, the oxidizer can be:  
Corrosive (either acidic or basic)  
Toxic  
Irritant  
Organic Peroxides can be shock-sensitive
- For compound-specific hazards, please consult the SDS for additional information.



GHS Pictogram for Oxidizing Materials / Oxidizers

#### Usage

- As with any hazardous material, the lab needs to incorporate the hazards and safe handling procedures in the lab operating procedures/protocols.
- As with all lab procedures/protocols, the PI must insure all lab personnel have been trained and the training documented.
- Wear appropriate PPE such as chemical safety goggles, gloves and lab coat.
- Use engineering controls such as fume hoods.
- Segregate from combustible and flammable materials.
- Store organic peroxides by themselves.
- For compound-specific usage, always consult the SDS.

#### Spills

- Clean up small spills using absorbent material.
- Wear appropriate PPE and have adequate ventilation.
- Avoid combustible or flammable materials.
- Collect clean up material for waste disposal.
- For large spills, evacuate area and contact EHS.

#### Disposal

- Oxidizer waste needs to be routed through the EHS Materials Management section. Please contact EHS for more information.