

OXIDISERS AND INORGANIC PEROXIDES

Hazard Description

Oxidizers are substances that readily release oxygen or another oxidizing substance (chlorine, bromine, or fluorine). Solid oxidizing agents such as metallic chlorates, perchlorates, nitrates, chromates and permanganates may form explosive mixtures with oxidizable dusts and other suspended particles (e.g., flour, coal dust, magnesium powder, zinc dust, carbon powder). Inorganic peroxides are generally stable but can react with organic compounds to generate peroxides and the reaction can at times be very violent. Additional training must be completed prior to use of any type of peroxides.



When handling corrosive chemicals, the eyes and skin are most commonly at risk, however failure to use proper protective equipment and handling procedures can result in exposures to the respiratory and digestive tract through inhalation and ingestion.

Examples (Oxidizers)

- Nitrates
- Nitrites
- Permanganates
- Chlorates

Examples (Inorganic Peroxides)

- Hydrogen Peroxide
- Manganese Peroxide
- Sodium Peroxide

Storage

- Solid oxidizers can be stored with other solid chemicals.
- Peroxides should be stored according to the manufacturer's guidelines.

Hazardous Waste

- Must be disposed of as per the [University's Hazardous Waste Standard](#).
- Should be labelled as an oxidizer if an oxidizer, or a peroxide if an inorganic peroxide.
- Be aware of what acids can be mixed. Piranha solutions (sulfuric acid/peroxide mix) as well as aqua regia (nitric acid/hydrochloric acid mix) are highly aggressive, off-gassing solutions. These cannot be brought to the ESF and need to be neutralized in-house. They should be diluted (usually 20x) before being neutralized and then sent to drain with lots of water. If there are other contaminants remaining (e.g., heavy metals) then the neutralized solution needs to be brought to the waste facility.