ECKERD COLLEGE

Safe Operating Procedure

(12/03)

OXIDIZERS

Oxidizing chemicals can be either organic or inorganic. Simply stated, these chemicals pose a fire and/or explosion risk because of their ability to donate or liberate oxygen, thereby initiating or enhancing the combustion of other materials. Chlorine and fluorine, also considered oxidizers, are similar to oxygen in that they can oxidize free radicals. Oxidizers can also pose additional hazards such as corrosivity, toxicity, and reactivity. Some oxidizers are highly reactive, and are sensitive to light, heat, friction, or impact. Examples of inorganic oxidizers include nitric acid, perchloric acid, ammonimum nitrate, potassium nitrate, potassium permanganate, and sodium hypochlorate. Examples of organic oxidizers include benzoyl peroxide, tetranitromethane, and peracetic acid.

General safe-handling and storage practices for oxidizers are listed below. Refer to chemical specific Material Safety Data Sheets (MSDS) for additional guidance and precautions.

- Store in a cool, dry, well-ventilated area that is protected from direct sunlight.
- Store in and on inert containers/shelves. Heavy plastic tubs or shelves are a good choice. Wood shelves or counters are not a good choice. Storage in a flammable liquid cabinet, within a plastic secondary container tub, and segregated from other flammable materials is the best storage choice.
- Segregate oxidizer storage areas from all other chemical storage areas, especially organics and reducing agents.
- Minimize the quantity of strong oxidizers stored.
- Never return excess chemical to the original container. Trace impurities could result in fire or explosion.
- Store in containers with tight-fitting, screw-top lids.
- Do not heat under confinement.
- Use in a fume hood, with the sash in the lowest possible position to protect the user in the event of an adverse reaction.

- Be aware of the potential for delayed reactions that could result in fire, pressure build-up, and/or explosion.
- Handle compressed gas cylinders of oxidizing agents with extreme care.