Oxidizing Materials

**Oxidizing materials** are chemicals that can decompose readily to yield oxygen or an oxidizing substance.

**Hazards of Oxidizing Materials**

**Intensification of fires and explosions** – The usual source of oxygen for burning is air. Oxidizing materials can supply combustible substances with oxygen and support a fire even when air is not present. Oxidizing materials can:

- speed up the development of a fire and make it burn more intensely,
- cause substances to burn rapidly that do not normally burn readily in air, and
- cause combustible materials to burn spontaneously without the presence of an ignition source such as a spark or flame.

**Combustion** – Some oxidizing materials are themselves combustible.

**Other hazards** – oxidizing materials may also be compressed gases, corrosive, toxic, or highly reactive.

**Working Safely with Oxidizing Materials**

- UNDERSTAND all of the hazards (e.g. health, corrosivity and reactivity) associated with the material, and how to use it safely.
- CONSULT the Material Safety Data Sheet (MSDS) for specific information about incompatible materials before working with any oxidizing material.
- KEEP away from incompatible and organic materials such as paper, wood, flammable and combustible materials, greases, waxes, cloth and many plastics.
- PREVENT the release of oxidizing material into the workplace. Leaks and spills may be dangerous.
- ENSURE that all containers are clearly labeled and undamaged.
- KEEP containers tightly closed unless supplier instructs otherwise.
- USE only the smallest quantity required.
- REMOVE all sources of ignition.

**Common oxidizing materials are:** ozone, nitrogen dioxide, nitric acid, perchloric acid and peroxides

- USE only in well ventilated areas.
- USE only containers that are recommended by the supplier, usually the shipping container.
- PRACTICE good housekeeping by keeping areas clear of materials that burn.
- REPORT leaks and/or spills to your supervisor immediately.
- UNDERSTAND and PRACTICE emergency procedures so that you know what to do if it becomes necessary.
- CLEAN UP spills and/or buildup of oxidizer promptly according to company procedures.
- REMOVE contaminated clothing, footwear and watchbands as they can pose a severe fire hazard. Follow recommended procedures for decontamination or disposal.

**DO NOT**

- USE corks or rubber stoppers to seal containers.
- RETURN any used or unused oxidizer to the original container. Trace amounts of a contaminant might start a dangerous reaction.
- CHIP or GRIND lumps of oxidizers to break them up, as they may be shock sensitive. If crystals have formed in containers, contact your supervisor about safe handling and disposal.
- SLIDE or SKID heavy metal drums across floors.
- REUSE empty containers as they may contain oxidizer residue.
- USE sawdust or other combustible materials to clean up spills of oxidizing materials.

**In the event of an emergency...**

Warn people in the area and move to a safe location to call for emergency help.