**Oxidizers**

1. **Process**
   1. Storage of Oxidizing Materials (liquids and solids).
   2. Use of Oxidizing Materials (liquids and solids)
2. **Describe process, hazardous chemical, or hazard class**
   1. Oxidizers: There are two definitions of oxidizers commonly used in laboratories. One is the classical chemistry definition of a compound with the ability to strip electrons from another compound. The second definition (and the one that is relevant in this discussion of hazards) is a group of chemicals that are capable of donating oxygen to flammable or combustible materials.
   2. Oxidizers are used for a wide variety of activities in the laboratory. Bleach is one example of an oxidizer that is commonly used for disinfection, yet it is not always recognized as presenting a hazard when mixed with flammable materials.
3. **Potential Hazards**
   1. Avoid skin contact-burns may result. Many oxidizing materials have other hazardous properties that should be identified prior to working with the material.
   2. Avoid mixing oxidizers with other materials, especially flammables
   3. Avoid mixtures of oxidizing materials with organic compounds in general. Oxidizers are capable of making normally non-flammable materials flammable in some cases.
4. **Personal Protective Equipment**
   1. Consult SDS
   2. Wear safety goggles, and nitrile, PVC, or neoprene gloves.
5. **Engineering Controls**
   1. The use of oxidizers in a fume hood is dependent on the properties of the individual chemical. Some oxidizers should be used in a fume hood while others can be safely used outside of a fume hood. See the Safety Data Sheet to determine what engineering controls are needed. A safety shower and eyewash must be available and accessible when working with corrosive liquids.
6. **Special Handling Procedures and Storage Requirements**
   1. Avoid storing oxidizers with other types of materials. Even solid oxidizers should be kept away from other compounds which may serve as a fuel in an accidental mixture. Be sure to consider secondary properties when storing oxidizers together as well. Nitric acid and bleach are both oxidizers, but one is an acid and the other a base. Therefore, these two chemicals should not be stored in close proximity.
7. **Spill and Accident Procedures**
   1. Skin and/or eye exposure, inhalation or ingestion: Consult SDS/call Poison Control, inform supervisor immediately, get immediate medical attention. Dial 911 for medical transport.
   2. Spills:
      1. Incidental spills: clean up using knowledge from SDS.
      2. Small spills: Do not attempt cleanup if you feel unsure of your ability to do so or if you perceive the risk to be greater than normal laboratory operations. Call 911 for spill response.
      3. Large Spills: Notify others in area of spill. Turn off ignition sources in area. Evacuate area and post “DO NOT ENTER” signs on entrance ways to spill area. Call NAU Police at 911 for spill response. Restrict personnel from area of spill or leak until cleanup is complete. Remain in area in safe location to assist first responders. Depending upon the toxicity of material, pull the fire alarm to evacuate the building.
8. **Decontamination Procedures**
   1. Consult SDS
   2. For decontaminating surfaces from strong oxidizers (chlorates, perchlorates, concentrated hydrogen peroxide) use sodium bisulfite and water to reduce the oxidizing agent.
9. **Waste Disposal Procedures**
   1. Contact EH&S for waste disposal.
10. **Safety Data Sheet Location**
    1. Safety Data Sheets must be available