Oxidizers Standard Operating Procedure

Hydrogen Peroxide, Nitric Acid, Sulfuric Acid

Process or chemical	Oxidizers such as dichromates, permanganates, sulfurics, or perchlorates may cause skin irritation or sensitization. Besides these hazardous properties, many oxidizers may present fire and explosion hazards.
Personal Protective Equipment	Wear a smock, goggles, a face shield, and chemical gloves over cleanroom gloves. The PPE provided in the lab is appropriate for the chemicals in the lab. This PPE must be worn when working in the hoods on the north side of the photolithography room and when cleaning up acid/base spills. Wear closed-toe shoes to protect the feet. Ensure gloves are thoroughly washed after use, even if there is no visible contamination.
Ventilation controls	Use oxidizers only in BATH1, BATH2, BATH3, HOOD1, and HOOD2. Make sure the bench ventilation is operating correctly. Keep container lids tightly closed whenever possible.
Handling and storage	Store oxidizers only the the appropriately labeled storage cabinets under the acid benches and in the overflow chemical storage in Fluke 125 with lids tightly closed. Use only in the designated fume hoods. When diluting acids, small amounts should be added gradually to water and mixed thoroughly to dissipate any heat generated. Acids should be stored separately from bases, oxidizers and flammable solvents. Acids should be transported in spill proof bottle carriers.
Spills and exposures	In case of skin contact, flush affected areas with copious amounts of water for 15 minutes. Obtain medical attention. Neutralize any spilled acids. A spill cart is located outside the stepper room. Absorb a liquid spill with spill pads from the spill cart. Evacuate the room if there is a spill outside of the fume hood. Vapors may present a serious health risk. During business hours, alert WNF staff or call EH&S at 206.543.0467 for further assistance. If a spill occurs after hours, call 911 and ask for EH&S assistance. When necessary EH&S will obtain a chemical spill cleanup contractor at the lab's expense. Spills inside the fume hoods can be rinsed thoroughly and squeegeed down the drain.
Disposal	Oxidizers used in the lab can go down the water drains in the acid/base benches in the lab. The solution going down the drain should be diluted at least 10 times with water. These drains lead to the acid/base waste neutralization system where they are treated prior to being discharged. Do not accumulate waste. Spill debris is also a hazardous waste and must be collected by EH&S for proper disposal.
Approval to use	Prior to using solvents in the WNF, you must pass the EH&S Managing Laboratory Chemicals course and be trained by WNF Staff by attending Lab Orientation and Wet Bench Training.
Decontamination	Ensure the bench is thoroughly rinsed, then is left clean and dry. Items contaminated with oxidizers should be thoroughly rinsed and dried.
Designated use area(s)	Only use oxidizers in the fume hoods labeled for acid use: BATH1, BATH2, BATH3, HOOD1, and HOOD2.