

Standard Operating Procedures for Particularly Hazardous Substance  
Osmium Tetroxide

#1	<b>Process</b> Chemical reactions using osmium tetroxide.
#2	<b>Hazardous Chemicals/Class of Hazardous Chemicals</b> Acutely hazardous material. Extremely poisonous.
#3	<b>PPE - Personal Protective Equipment</b> <u>Skin</u> : Avoid skin contact. Wear a lab coat and gloves when the potential for skin contact exists. Appropriate gloves include disposable nitrile, neoprene, and PVC gloves. Disposable nitrile gloves provide minimum protection for general laboratory use. Change gloves frequently or immediately whenever contamination is suspected. <u>Eyes</u> : Wear goggles (not vented). <u>Inhalation</u> : Contact EH&S (6-6002) for training and information if respiratory protection required.
#4	<b>Engineering/Ventilation Controls</b> Mix and use in fume hood. Do not work with osmium tetroxide in open room.
#5	<b>Special Handling Procedures and Storage Requirements</b> Review MSDS and this SOP prior to use. Avoid contact with eyes and skin. Use only in fume hood. Store in sealed ampoules in hood and store dilute solutions in freezer.
#6	<b>Spill and Accident Procedures</b> <u>Bodily contamination</u> : Remove all contaminated clothing immediately. <u>Eyes</u> : Exposure is extremely hazardous and can result in blindness. While holding eyelids open, flush eyes with copious amounts of water for at least 15 minutes. Seek medical attention immediately. <u>Skin</u> : Immediately wash skin with soap and copious amounts of water. <u>Inhalation</u> : Remove to fresh air. <u>Ingestion</u> : Seek medical attention immediately. Consult a medical professional for any necessary follow-up evaluations and treatments.  <u>Small spills</u> : Use absorbent such as kitty litter or Oil-Dri soaked in corn oil (200g of kitty litter will absorb approximately 100mL of corn oil). Spread kitty litter/oil mixture over spill and allow time for reaction. Test for completeness of reaction by suspending a corn oil soaked filter paper over spill. Blackening of filter paper indicates OsO <sub>4</sub> is still present. Collect and dispose the kitty litter/oil mixture, which contains osmium metal, as hazardous waste. <u>Large spills</u> : Notify other in area of spill. Turn off ignition sources in area. Evacuate and post doors to spill area. Call 911 at Campus for spill response. Restrict persons from area of spill until cleanup is complete.
#7	<b>Waste Disposal</b> Place complete EH&S waste label on container. Dispose of waste through EH&S within 90 days.
#8	<b>Approval Required</b> Supervisor approval required for first time use.
#9	<b>Decontamination Procedures</b> Wash surfaces with soap and water. Collect decontamination waste as hazardous waste.
#10	<b>Designated Area</b> Use in fume hood located in Room _____. Store in freezer located in Room _____.

For more information relevant to completing this form, review thoroughly Chemical Hygiene Plan: Section 5.

Training Acknowledgement: *I have read, asked questions, and understand the hazards of and safe working procedures for the activity/materials described herein.*

NAME \_\_\_\_\_

DATE \_\_\_\_\_