

**University of Washington
Department of Chemistry**

Standard Operating Procedures (SOP) for Particularly Hazardous Substances: Toxins,
Teratogens, Mutagens, Carcinogens, and Highly Dangerous Substances:

Methylene Chloride

#1 Process	Preparing or dispensing solutions, dilutions, or mixtures of methylene chloride.
#2 Hazardous Chemicals and Class of Hazardous Chemicals	<p>Toxins, Teratogens, Mutagens, Carcinogens, including Methylene Chloride.</p> <p>In accordance with WISHA, National Institute of Health and UW Chemical Hygiene Plan regulations and policies, this SOP provides the information needed to safely use Particularly Hazardous Substances as safely as possible.</p> <p>The substance present in this laboratory belongs to the class:</p> <ul style="list-style-type: none"> • Regulated Carcinogen, Reproductive Toxicant <p>This chemical is listed as a Particularly Hazardous Substance in Table H-1 of Appendix H of the UW Safety manual.</p> <p>Potential Health Effects</p> <p>-----</p> <p>Inhalation: Causes irritation to respiratory tract. Has a strong narcotic effect with symptoms of mental confusion, light-headedness, fatigue, nausea, vomiting and headache. Causes formation of carbon monoxide in blood which affects cardiovascular system and central nervous system. Continued exposure may cause increased light-headedness, staggering, unconsciousness, and even death. Exposure may make the symptoms of angina (chest pains) worse.</p> <p>Ingestion: May cause irritation of the gastrointestinal tract with vomiting. If vomiting results in aspiration, chemical pneumonia could follow. Absorption through gastrointestinal tract may produce symptoms of central nervous system depression ranging from light headedness to unconsciousness.</p> <p>Skin Contact: Causes irritation, redness and pain. Prolonged contact can cause burns. Liquid degreases the skin. May be absorbed through skin.</p> <p>Eye Contact: Vapors can cause eye irritation. Contact can produce pain, inflammation and temporal eye damage. Chronic Exposure: Can cause headache, mental confusion, depression, liver effects, kidney effects, bronchitis, loss of appetite, nausea, lack of balance, and visual disturbances. Can cause dermatitis upon prolonged skin contact. Methylene chloride may cause cancer in humans.</p> <p>Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders, eye problems, impaired liver, kidney, respiratory or cardiovascular function may be more susceptible to the effects of this substance.</p>
#3 Personal Protective Equipment (PPE)	<p>Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Neoprene is a recommended material for gloves. Natural rubber and polyvinyl chloride ARE NOT recommended materials for gloves.</p> <p>Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible.</p>

#4 Environmental / Ventilation Controls	Use fume hood when handling methylene chloride.
#5 Special Handling Procedures & Storage Requirements	<p>Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. To minimize decomposition, all storage containers should be galvanized or lined with a phenolic coating. This material may corrode plastic and rubber.</p> <p>Storage Incompatibilities: Strong oxidizers, strong caustics, plastics, rubber, nitric acid, water + heat, and chemically active metals, such as aluminum and magnesium powder, sodium, potassium, and lithium.</p>
#6 Spill and Accident Procedures	For minor spills, use absorbent pads to clean up. Occupational Spill: For small containers, place the leaking container in your chemical fume hood or other well-ventilated area. Clean-up small spills with absorbent material if this can be done safely. For larger spills, leave the area immediately and dial 911 or contact EH&S at 206-543-0467 directly.
#7 Waste Disposal	Waste is collected by EH&S, including any contaminated clean up materials. Waste containers must be labeled with the name of the material they contain and are to be kept closed.
#8 Special Precautions for Animal Use (if applicable)	Not applicable.
Particularly hazardous substance involved?	<input checked="" type="checkbox"/> YES: Blocks #9 to #11 are Mandatory
	<input type="checkbox"/> NO: Blocks #9 to #11 are Optional.
#9 Approval Required	
#10 Decontamination/ Exposure	<p>Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.</p> <p>Ingestion: If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.</p> <p>Skin Contact: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.</p> <p>Eye Contact: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.</p>
#11 Designated Area	Choose a designated fume hood for working with Methylene Chloride. Clean surfaces with soap and water when finished with work.
Name:	Title:
Signature:	Date: