

FORMALDEHYDE TEMPLATE SOP

[Enter text in the highlighted words in italics to include specifics for your laboratory.]

Note: Enter your specific formaldehyde chemical name in any "formaldehyde-containing chemical" field and click elsewhere. All other "formaldehyde-containing chemical" fields will be populated with your specific chemical name.

| Standard Operating Procedures for formaldehyde | |
|---|--|
| 1. Chemicals/Hazards | <p><i>[Obtain specific chemical hazard information from SDS.]</i></p> <p>Chemical name: formaldehyde CAS number: 50-00-0 Routes of exposure: [xxx] How exposure might occur: [xxx] Target organs: [xxx] Signs/symptoms of exposure: [xxx]</p> |
| 2. Process | <p><i>[Describe or attach what is being done with formaldehyde, including specific laboratory procedures and quantities used.]</i></p> <p>[▶ Click here to enter text ◀]</p> |
| 3. Planning and Preparation | <p>Hazardous chemical and specific SOP training will be provided to personnel working with formaldehyde and any other personnel authorized or required to be in the laboratory during work with the chemical.</p> <p>Enter formaldehyde into MyChem inventory, the online UW chemical inventory system. Attach SDS in the process.</p> <p>Appropriate cleaning method(s) for formaldehyde will be determined and supplies for cleaning and spill cleanup of formaldehyde will be readily available.</p> |
| 4. Environmental/Ventilation Controls | <p>Work with formaldehyde will be performed in a fume hood.</p> <p><i>[Describe any work outside of hood or exhausted containment and controls put in place to prevent exposure.]</i> [▶ Click here to enter text ◀] Routine use of formaldehyde outside of hood or exhausted containment is acceptable only when airborne formaldehyde levels have been monitored during the procedure by EH&S and found to be below the action level of 0.5 ppm.</p> |
| 5. Personal Protective Equipment (PPE) | <p>The following PPE will be worn when working with formaldehyde: <i>[Customize list]</i></p> <ul style="list-style-type: none"> • Two pairs disposable nitrile exam gloves or one pair of thicker nitrile or butyl gloves (minimum 10 mil thickness) for concentrated chemical • Disposable nitrile exam gloves for solutions • Safety glasses with side shields or chemical safety goggles • Lab coat or equivalent • If splash possible, wear face protection such as a face shield, and an impermeable apron with sleeves • Respiratory protection <i>[if dust, aerosol or vapor hazard is present]</i> <p>Gloves will be changed immediately if contaminated, torn, or punctured.</p> |
| 6. Special Handling Procedures & Storage Requirements | <p>HANDLING</p> <p><u>Prep</u></p> <ul style="list-style-type: none"> • All preparation of formaldehyde solutions will be performed over plastic- |

| | |
|---|---|
| | <p>backed absorbent pads in a fume hood. Pads will be disposed of after completion of tasks or immediately upon contamination.</p> <ul style="list-style-type: none"> • Wear nitrile gloves for all procedures involving preparation and handling of formaldehyde. • Change gloves after each use, or immediately when torn, punctured, or contaminated. <p><i>[Describe how formaldehyde will be prepared.]</i></p> <p>Click here to enter text</p> <p><u>Use</u></p> <ul style="list-style-type: none"> • A sharps container will be in the immediate vicinity for safe sharps disposal. • The fume hood will be cleaned upon completion of tasks with soap and water. • All potentially contaminated disposable items will be placed in a waste bag before disposal. • Hands will be washed upon completion of tasks. <p>STORAGE</p> <ol style="list-style-type: none"> 1. formaldehyde containers will be labeled and stored in chemical cabinet in [room #]. <p>TRANSPORT</p> <ol style="list-style-type: none"> 2. formaldehyde will be transported in labeled and sealed non-breakable secondary containers. |
| <p>7. Spill and Accident Procedures</p> <p><i>[Specific cleaning and waste disposal procedures must be determined.]</i></p> | <p>formaldehyde spills must be cleaned up immediately by properly protected and trained personnel who are not sensitive to formaldehyde. All other persons should leave the area. Spill response procedures must be developed based on the chemical and potential spill or release conditions. Clean up spills using contents of the spill kit. Do not attempt to clean up any spill if not trained or comfortable. For large spills, evacuate the area and call 911 on campus phone for help. If spill is out of control, call 911. If person injured, exposed, or suspected of being exposed to formaldehyde, follow procedures below in section 8. Exposure Procedures.</p> <ul style="list-style-type: none"> • Spills inside a fume hood, BSC, glove box or approved containment; and • Small Spills (250 ml or less) outside of fume hood or containment <ol style="list-style-type: none"> 1. Spills, regardless of size, inside a fume hood can typically be cleaned up by trained people who are not sensitive to formaldehyde. 2. Small spills outside a fume hood (250 ml or less) can also be managed by trained people who are not sensitive to formaldehyde. 3. Personnel must wear a lab coat or smock, safety goggles, two pairs of disposable nitrile exam gloves or one pair of thicker nitrile or butyl gloves (minimum 10 mil thickness) or Silver Shield gloves and shoe covers as needed when cleaning up spills. 4. Liquids: Wipe up spilled liquids with absorbent pads. If using a formaldehyde neutralizing absorbent, cover the spill with the absorbent and allow to set for the prescribed contact time (usually 15 min.), and then scoop up and dispose of properly. 5. Solids: Gently cover paraformaldehyde solid spills with wetted paper towels or absorbent pads to avoid raising dust and then wipe up. 6. Clean the spill area thoroughly with detergent solution followed by clean |

| | |
|--|--|
| | <p>water.</p> <ol style="list-style-type: none"> 7. If spill is extensive within the containment, clean all interior surfaces after completion of the spill cleanup. 8. Double bag all waste in plastic bags labeled with a hazardous waste label that reads "formaldehyde spill debris." Complete either an Online Chemical Waste Collection Request or a Chemical Collection Request Form (PDF). Email the form to chmwaste@uw.edu. <ul style="list-style-type: none"> • Large spills (greater than 250 ml) outside of fume hood or containment <ol style="list-style-type: none"> 1. Large formaldehyde spills (greater than 250 ml) outside a fume hood or containment may generate vapors above formaldehyde exposure limits; therefore, these spills require the use of respiratory protection. 2. Cover spill if possible to keep vapors down. 3. Evacuate area and restrict access. Attend to injured or exposed persons using emergency shower or eyewash. Follow procedures below in 8. Exposure Procedures. 4. As soon as possible report the spill in a safe area by notifying EH&S (during business hours (M-F/8-5) 206-543-0467, outside business hours 911 on a campus phone). Tell them that a spill has occurred, and you need help managing the spill. EH&S can arrange for a spill cleanup contractor. Notify supervisor. 5. Be prepared to provide the following information: <ul style="list-style-type: none"> • Name and phone number of knowledgeable person that can be contacted • Name of chemical spilled, concentration and amount spilled, liquid or solid type spill • Number of injured, if any (refer below to 8. Exposure Procedures in case of emergency) • Location of spill <p>This information can also be used in reporting to the Emergency Department (ED) after potential exposure.</p> 6. Only if staff are trained, have the proper PPE including respiratory protection and are comfortable with cleaning up the spill, they may proceed to clean it up. Personnel must wear a lab coat or smock, safety goggles, two pairs of disposable nitrile exam gloves or one pair of thicker nitrile or butyl gloves (minimum 10 mil thickness) or Silver Shield gloves, shoe covers, and a respirator specifically for protection against formaldehyde. Respirator use requires enrollment in UW's respirator program. Contact EH&S at uwresp@uw.edu for information or see https://www.ehs.washington.edu/ohsresp/index.shtm. 7. Liquids: Wipe up spilled liquids with absorbent pads. If using a formaldehyde neutralizing absorbent, cover the spill with the absorbent and allow to sit for the prescribed contact time (usually 15 min.), and then scoop up and dispose of properly. 8. Solids: Gently cover paraformaldehyde solid spills with wetted paper towels or absorbent pads to avoid raising dust and then wipe up. 9. Clean the spill area thoroughly with detergent solution followed by clean |
|--|--|

| | |
|--|--|
| | <p>water.</p> <p>10. Double bag all waste in plastic bags labeled with a hazardous waste label that reads "formaldehyde spill debris." Complete either an Online Chemical Waste Collection Request or a Chemical Collection Request Form (PDF). Email the form to chmwaste@uw.edu.</p> <p>Any spill incident requires the involved person or supervisor to complete and submit the Online Accident Reporting System (OARS) form to EH&S within 24 hours (8 hours if serious injury or hospitalization).</p> <p>For questions on spill cleanup, contact EH&S spill consultants at 206-543-0467.</p> |
| <p>8. Exposure Procedures In Case of Emergency</p> | <p>1. Provide First Aid Immediately</p> <ul style="list-style-type: none"> • For sharps injury (needlestick or subcutaneous exposure), scrub exposed area thoroughly for 15 minutes using warm water and sudsing soap. • For skin exposure, use the nearest safety shower for 15 minutes. Stay under the shower and remove clothing. Use a clean lab coat or spare clothing for cover-up. • For eye exposure, use the eyewash for 15 minutes while holding eyelids open. • For inhalation exposure, move out of contaminated area. Get medical help. <p>2. Get Help</p> <ul style="list-style-type: none"> • Call 911 on campus phone or go to nearest Emergency Department (ED). Give details of exposure, i.e. chemical, dose, route of exposure, time since exposure. Bring to the ED the SDS and this SOP. • Notify your supervisor as soon as possible for assistance. • Secure area before leaving. <p>3. Report Incident to Environmental Health & Safety</p> <ul style="list-style-type: none"> • During business hours (M-F/8-5) call 206-543-7262. • Outside business hours call 206-685-UWPD (8973) to be routed to EH&S staff on call. • If serious accident, hospitalization or fatality, notify EH&S immediately after providing first aid and/or getting help. • For all incidents and near misses, the involved person or supervisor completes and submits the UW Online Accident Reporting System (OARS) form to EH&S within 24 hours (8 hours if serious injury or hospitalization). |
| <p>9. Waste Collection and Disposal Waste Formaldehyde Treatment (if applicable)</p> | <p>Collection</p> <ul style="list-style-type: none"> • Waste formaldehyde-containing chemical is considered a hazardous chemical waste. • Accumulate waste in a sturdy, chemically compatible container with a secure closure. For contaminated debris, a bag may be used, but it must be strong enough to prevent the contents from puncturing through. • Double bag all used and contaminated (not grossly contaminated) disposable items, such as gloves, paper towels and absorbent pads, in plastic bags. Label as non-hazardous waste before disposing in the trash. • Place grossly contaminated disposable items in double plastic bags for hazardous waste pickup. • All waste containers must be properly labeled with all of the contents. • All waste containers must be properly closed or sealed. |

| | | | | | |
|--|---|---------------|---------------------------------|--------|---------------------------------|
| | <ul style="list-style-type: none"> Waste formaldehyde-containing solutions with specimens or tissue samples must be separated before disposal. The specimens may be considered biohazardous waste, which would need to be handled according to procedures given at http://www.ehs.washington.edu/ohsreslab/biowaste.shtm <p>Disposal</p> <ul style="list-style-type: none"> For waste pickup: Complete either an Online Chemical Waste Collection Request or a Chemical Waste Collection Request Form (PDF). Email the form to chmwaste@uw.edu. Contact EH&S Environmental Programs Office at 206-616-5835 or email chmwaste@uw.edu for waste disposal guidance and instructions. <p>Waste Formaldehyde Treatment <i>[Describe waste formaldehyde treatment procedure if applicable. Contact EH&S Environmental Programs Office at 206-616-5835 or chmwaste@uw.edu for waste treatment procedures and questions.]</i></p> | | | | |
| 10. Special Precautions for Use of formaldehyde in Animals (if applicable) | <p>Use of formaldehyde in animals will be documented and approved by IACUC. <i>[Give detailed procedures for safely completing tasks and any special disposal requirements.]</i></p> <p>[➡ Click here to enter text ⬅]</p> | | | | |
| Particularly hazardous substance involved? | <table border="1"> <tr> <td><u>X</u> YES:</td> <td>Blocks #11 to #13 are Mandatory</td> </tr> <tr> <td>__ NO:</td> <td>Blocks #11 to #13 are Optional.</td> </tr> </table> | <u>X</u> YES: | Blocks #11 to #13 are Mandatory | __ NO: | Blocks #11 to #13 are Optional. |
| <u>X</u> YES: | Blocks #11 to #13 are Mandatory | | | | |
| __ NO: | Blocks #11 to #13 are Optional. | | | | |
| 11. Approval Required | All staff working with formaldehyde must be trained on this SOP prior to starting work. They must also be trained on the formaldehyde SDS, and it must be readily accessible in the laboratory. All training must be documented and maintained by the PI or their designee. | | | | |
| 12. Decontamination | All surfaces will be decontaminated with soap and water after removing the plastic backed pads. | | | | |
| 13. Designated Area | All work with formaldehyde must be done in a designated laboratory, work space, and fume hood. This work will be conducted in [room #] | | | | |
| Name: | Title: | | | | |
| Signature: | Date: | | | | |

