

Principal Investigator: _____

Date Approved: _____

This document covers basic chemical safety information for formaldehyde, formalin, and paraformaldehyde. The use of formaldehyde, formalin, and paraformaldehyde is subject to pre-approval by the Principal Investigator (PI) and/or Supervisor. PI and/or Supervisor may use the sheet attached to this SOP to document any lab specific training for Formaldehyde, Formalin, and Paraformaldehyde. **DO NOT USE FORMALDEHYDE, FORMALIN, OR PARAFORMALDEHYDE UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.**




Formaldehyde, Formalin, and Paraformaldehyde

Formaldehyde is a toxic, flammable gas known to cause cancer. It is also a sensitizer and produces eye irritation at concentrations ≥ 0.3 ppm.

Formalin is a solution of formaldehyde and methanol in water which is commonly used as a preservative for biological samples.

Paraformaldehyde is a white, crystalline solid resulting from the polymerization of formaldehyde. It can decompose to formaldehyde gas by dry heating and to formaldehyde solution by dissolving it in water in the presence of acid or heat.



Personal Protective Equipment & Personnel Monitoring		
 Lab Coat	 Gloves	 Eye Protection
Flame resistant lab coat.	Nitrile, chloroprene, or natural rubber gloves.	ANSI Z87.1-compliant safety glasses or safety goggles if a splash hazard is present.

Labeling & Storage

Store in secondary containment, in a well-ventilated area, away from heat, flame and from other materials that are not particularly hazardous or which may be chemically incompatible. Primary containers should be labeled according to the UNC Charlotte Chemical Hygiene Plan. The secondary container's label must contain the chemical name and corresponding hazards. Containers of these materials must be stored in leak-proof secondary containment within a Designated Area. Also, if not plainly visible (e.g. through a cabinet window), labelling must be applied to storage locations where these are stored to avoid an inadvertent encounter.

Engineering Controls, Equipment & Materials

Fume Hood

Use a fume hood to keep exposure to Formaldehyde as low as possible. If your protocol does not permit the handling of such materials in a fume hood, contact EHS to perform an exposure assessment to determine whether alternative engineering controls or additional respiratory protection is necessary to keep exposures below the action level of 0.5 ppm. NOTE: The odor threshold for formaldehyde is 0.8 ppm.

Housekeeping

Spills

Notify others in the area of the spill, including your supervisor. Evacuate the location where the spill occurred. Call 911 from any campus phone (or 704-687-2200 from a cell phone). Report any exposure to EHS at 704-687-1111. Remain on-site (at a safe distance) to provide detailed information to first responders.

Decontamination

Decontaminate workspace with 70-75% ethanol. Wash hands and arms with soap and water after finished. Contaminated items and gloves should be discarded as hazardous waste.

Waste

Refer to the UNC Charlotte [Chemical Hygiene Plan](#) for details.

First Aid & Emergencies

Skin or Eye Contact

Remove contaminated clothing and accessories; flush affected area with water. If symptoms persist, get medical attention.

Inhalation

Move person into fresh air. If symptoms persist, get medical attention.

Ingestion

Rinse mouth with water. If symptoms persist, get medical attention.

Name	Signature	Date