



Formaldehyde, Formalin, and Paraformaldehyde

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. **DO NOT USE FORMALDEHYDE, FORMALIN, OR PARAFORMALDEHYDE until you have obtained the necessary training.**

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

Flame resistant lab coat



Gloves

Nitrile or natural rubber gloves



Eye Protection

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 incompatible. Containers of pure formaldehyde or paraformaldehyde, or flammable mixtures of formaldehyde, must be labeled as flammable.

Engineering Controls: 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 SH&S 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.

First Aid and 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.