

What do I need to know about formaldehyde?

Formaldehyde is a colorless, strong-smelling gas. Laboratories typically use it as formalin, a methanol-stabilized water solution that contains 37%, 44% or 50% formaldehyde. It is also used as a solid polymer (paraformaldehyde). Cal/OSHA has identified formaldehyde as a human carcinogen. Written standard operating procedures (SOP) & material safety data sheets (MSDS) must be readily available in every lab using formaldehyde. **All UCLA affiliated personnel using formaldehyde must follow these guidelines.**

What are the hazards of formaldehyde?

Inhalation	<ul style="list-style-type: none"> • Concentrations ≥ 0.1 parts per million (ppm) in air can irritate mouth, nose, & throat. • Exposure >25 ppm can cause pulmonary edema which may lead to death. • Exposure >100 ppm is immediately dangerous to life & health (IDLH). • If sensitized, inhalation exposure at any concentration may cause allergic respiratory reactions such as asthma, bronchitis, wheezing, & chest tightness.
Oral	<ul style="list-style-type: none"> • Ingestion can irritate the mouth, throat, & stomach, & cause nausea, vomiting, or convulsions. • An oral dose of 30 to 100 ml formalin can be fatal.
Eyes	<ul style="list-style-type: none"> • Concentrations of 3 to 5 ppm may severely irritate eyes. • Direct contact with the eyes & skin may also cause severe burns, blurry vision, & loss of vision. • Burns to eyes & skin may be delayed & not appear for hours after initial contact.
Skin	<ul style="list-style-type: none"> • Formalin is a severe skin irritant & sensitizer. • Repeated dermal contact at relatively low concentrations may cause allergic dermatitis. • Contact causes white discoloration, a burning sensation, drying & scaling of the skin.
Chronic Exposure	<ul style="list-style-type: none"> • Formaldehyde & its solutions have been associated with cancers of lungs & nasal passageways.
Physical Hazards	<ul style="list-style-type: none"> • Formaldehyde & its solutions may ignite when exposed to heat, spark, or flame, potentially emitting formic acid.
Exposure Limits	<ul style="list-style-type: none"> • Permissible Exposure Limit (PEL) is 0.75 ppm on an 8 hour work shift. • Short Term Exposure Limit (STEL) is 2 ppm for a 15 minute period.

How can I protect myself from formaldehyde?

- **Complete the formaldehyde training at the EH&S Online Learning Center (www.training.ucla.edu/ehs).**
- Use formaldehyde & its solutions in a fume hood.
- PPE: Always wear splash goggles, laboratory coats, & impermeable gloves to prevent eye & skin contact.
- Do not store formaldehyde & its solutions near strong oxidizers.
- Formaldehyde reacts with hypochlorite to form the potent carcinogen, bis-chloromethyl ether.

How do I dispose of formaldehyde waste?

- Handle & dispose of formaldehyde as an Extremely Hazardous Waste.
- Dispose of empty formaldehyde containers as hazardous waste.
- Dispose of all tissues & carcasses that come into contact with formaldehyde as medical waste.

What do I do if there's a spill or emergency?

- Clean up small spills with absorbent material. Neutralize spill with sodium hydroxide, sodium sulfite, or Spill-X-FP.
- For large spills, evacuate the area & contact 911 or EH&S (x59797). Isolate & control access to spill zone.
- For dermal & eye exposure, wash area immediately in eyewash/shower for at least 15 minutes.
- In case of medical emergency, obtain medical attention immediately at one of two locations:
Occupational Health Facility - CHS 67-120, x56771
UCLA Medical Center - enter from Gayley Avenue, call x52111 during off hours).

Contact Information:

310-825-9797

HazardousMaterials@ehs.ucla.edu

www.ehs.ucla.edu