



## Definitions:

**Formaldehyde** ( $\text{H}_2\text{CO}$ ) is routinely used for fixation of biological samples.  
**Formalin** is a saturated formaldehyde solution (usually 37% with methanol stabilizer).  
**Paraformaldehyde** (PFA) is polymerized formaldehyde. PFA is used to make pure formaldehyde solutions or can be heated to create pure formaldehyde gas.

## Hazards:

**Carcinogen** (confirmed human carcinogen)  
**Sensitizer**/ may cause an allergic reaction (skin and pulmonary)  
**Corrosive**/ Irritant (skin, eye, and respiratory tract)  
**Reproductive toxin**  
**Suspected mutagen**  
**Acutely toxic** (ingestion, inhalation, and skin contact)  
**Highly flammable**  
Eye contact can result in corneal damage or blindness



## Storage and Transportation:

- Store with flammables in tightly-closed shatter-resistant containers.
- Store away from oxidizers, reducing agents, metals, and acids (not in cold room).
- Use secondary containment for transport.

## BEFORE Working with (Para)Formaldehyde:

- Identify the location of the nearest eyewash and safety shower. Verify that they are accessible and functional.
- Perform all operations in a certified chemical fume hood or other approved ventilation system
- Designate a work area for Formaldehyde and label it accordingly. An example is: "Formaldehyde Work Area: Danger! Toxic!"

## Working with (Para)Formaldehyde:

- AVOID INHALATION! Work with any solution  $>4\%$  and all solids should be conducted in a chemical hood.
- AVOID CONTACT! Wear appropriate PPE.
- If weighing, place the balance in the hood. Decontaminate with soap and water.
- Keep all containers tightly closed when not in use.

## Waste:

- Contact our Hazardous Waste Program Coordinator at EHS regarding any questions concerning formalin, formaldehyde, or paraformaldehyde waste.

## Personal Protective Equipment

When working with Paraformaldehyde, Formalin, or Formaldehyde solutions, it is essential to **AVOID INHALATION & CONTACT!**



### Minimum PPE requirement:

- Nitrile gloves** to be changed immediately if contaminated
- Safety glasses or goggles**
- Fully buttoned lab coat** with sleeves extending to wrist and **closed toe shoes**.

## First Aid

### Signs of Exposure Include

- Eye, nose and throat irritation, excessive tearing, skin rashes, itching, shortness of breath, coughing, wheezing, and changes in lung function.

### Skin Contact

- Immediately remove all contaminated clothing including footwear. Flush the exposed area for 15 min. Seek medical attention in case of exposure.

### Eye Contact

- Using eyewash, flush eyes while holding eyelids away from exposed eye for at least 15 min. Then seek medical attention without delay. **Do not** remove contact lenses on own.

### Inhalation

- If fumes are inhaled, leave the area. If in respiratory distress, call 911.

