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.

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**Definitions:**

- **Formaldehyde** (H$_2$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.