



**THE UNIVERSITY OF TENNESSEE**  
**Occupational Health Program**

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## **Formalin**

### **1.0 Introduction**

**Formalin is a water-based solution with 37% formaldehyde by weight. Formalin solutions usually contain 6-12% methyl alcohol. It is colorless liquid which is denser than water. Formalin has a strong irritating odor, and flammable vapors. It is detectable at low concentrations**

### **2.0 People at Risk**

**People who are at risk of health hazards related to formalin include**

- Lab personnel who use formalin as a fixative for biological tissue specimens
- Necropsy personnel who use formalin during necropsies
- Personnel who reconstitute formaldehyde into formalin
- Personnel who dump formalin during disposal activities

### **3.0 Exposure Routes**

**Exposure routes for formalin include:**

- Inhalation exposure- from breathing in formalin fumes without proper ventilation or a fume hood.
- Skin exposure from handling formalin solution or formalin fixed tissues
- Eye exposure from splatter
- Ingestion from splatter in mouth

### **Signs and Symptoms: Acute and Chronic Effects of Exposure**

**Formalin exposure symptoms include:**

- Eyes burning and watering
- Nose, throat and respiratory system irritation
- Cough
- Wheezing
- Dermatitis

**If you experience any symptoms, contact OHP Nurse Bryan Cranmore RN at 865-755-8924 and your ES&H representative**

## **5.0 Formalin Exposure Prevention and Initial Treatment**

### **Formalin Exposure Prevention and Mitigation:**

- When working with formalin you should wear appropriate PPE which includes, safety goggles, lab coat, chemical resistant gloves
- When mixing formalin, a half face respirator should be utilized

### **Formalin Initial Treatment:**

Eye splatter exposure:

- irrigate eyes utilizing an eye wash station for 15 min and then seek medical attention immediately

Skin exposure:

- wash skin with soap and water for 15 minutes, remove contaminated clothing,
- if a chemical burn develops, seek medical attention immediately

Inhalation exposure:

- move to fresh air immediately, if symptoms don't improve, seek medical attention

## **6.0 Resources**

OSHA [link](#):

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