

# Spotlight On Safety

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## SAFE USE OF PHENOL

**Phenol (carbolic acid)** is a colorless or pink crystalline solid or viscous liquid with a characteristic sweet, tarry odor. The major hazard of phenol is its ability to penetrate the skin rapidly, causing severe burns. Toxic and even fatal amounts of phenol can be absorbed through relatively small areas of skin. Due to its local anesthetizing properties, skin burns may be painless. ***Phenol may be fatal if swallowed, inhaled, or absorbed through the skin.*** Care should be exercised not to walk in spills since phenol can penetrate leather.

### ***Emergency Procedures***

People administering first aid should take precautions to avoid contact with phenol. Phenol can penetrate leather on shoes or clothing. Acute overexposure by any route may lead to nausea, vomiting, muscle weakness and coma.

#### ***In case of skin contact:***

It is possible that pain may not be felt on initial contact. Whitening of the skin usually occurs, with deeper burns developing later. In case of skin contact, immediately flush skin with large amounts of water while removing contaminated clothing and shoes. Flush skin with water for at least 15 minutes or until the affected area turns from white to pink. It is very important to avoid rubbing or wiping affected parts which would aggravate irritation and cause product dispersion. Once the skin changes to pink or after 15 minutes, apply polyethylene glycol to the affected area. The polyethylene glycol application should be done during transportation to the hospital. If polyethylene glycol is not available, flush with water for at least 30 minutes prior to going to hospital. Get medical attention immediately. Destroy contaminated clothing and shoes.

#### ***In case of eye contact:***

May cause severe damage and possibly blindness. Immediately flush eyes with plenty of water for at least 15 minutes, lifting eyelids occasionally. Get medical attention immediately.

#### ***In case of inhalation:***

May be severely irritating to the respiratory tract. Remove to fresh air. Get medical attention immediately.

#### ***In case of ingestion:***

May burn the mouth and throat. May cause rapid development of digestive disturbances. As little as 1 gram may be fatal. Be ready to induce vomiting or administer 15 to 30 cc of castor oil or other vegetable oil at the advice of a physician or poison control center. Get medical attention immediately.



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## Special Safety Precautions

Phenol must be used with adequate ventilation to minimize inhalation. When heating phenol, use a water bath inside a chemical fume hood. **Never** heat or melt phenol in an incubator, microwave, drying oven, or similar appliance since it can react vigorously with oxidizing agents

### PPE

- Wear neoprene gloves, lab coat, and chemical resistant apron), safety glasses/face shield if splashing may occur.

### Spills

- Spills of **undiluted** phenol are serious and must be cleaned immediately
- Small spills of 50 ml or less may be absorbed using paper towels, vermiculite, or other absorbent and placed in a sealed container or double plastic bags and labeled with the UCR hazardous waste label
- If the spill is larger, remove ignition sources, provide adequate ventilation, evacuate lab, close doors, and call EH&S during normal business hours or **9-1-1** after hours

### Handling

- Use chemical splash goggles and/or a face shield where splashing is possible. Wear impervious clothing, including close-toed shoes, lab coat or apron and butyl rubber or neoprene gloves. Avoid heat, flames, and ignition sources. Hot liquid phenol will attack aluminum, magnesium, lead and zinc metals.

### Storage

- Store phenol in a cool, dry, ventilated area away from sources of heat or ignition. Store separately from reactive or combustible materials and out of direct sunlight.

### Disposal

- Phenol and phenol-contaminated materials should be placed in a glass bottle and disposed of as hazardous waste through [WASTe](#).

Visit [www.ehs.ucr.edu](http://www.ehs.ucr.edu) for additional information or call EH&S at 951-827-5528 if you have any questions.