

Standard Operating Procedure (SOP)



PHENOL

Effective Date: 8/23/2013

Revised Date: 10/10/2022

Introduction

- This SOP applies to PHENOL. Phenol is a very toxic mutagen. Target organs are the Central nervous system, Kidney, Liver, Pancreas, and Spleen. Phenol is a vesicant and is rapidly absorbed through the skin.

POTENTIAL HAZARDS

- Very hazardous on contact with skin. Corrosive and toxic.

Health Hazards

HEALTH HAZARD INFORMATION


Signal word: **Danger**
Hazard statement(s):

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

H341 Suspected of causing genetic defects.

H373 May cause damage to organs through prolonged or repeated exposure.

Personal Protective Equipment

EYE PROTECTION

- Goggles or face shields shall be worn during operations in which PHENOL might contact the eyes (e.g., through vapors or splashes of solution).
- Adequate safety glasses must meet the requirements of the Practice for Occupational Education Eye and Face Protection (ANSI Z87.1-1989) and must be equipped with side shields.

HAND PROTECTION

- Use 2 pairs of disposable nitrile gloves when working with PHENOL. Change gloves at least every two hours.
- Laboratory personnel should thoroughly wash hands with soap and water before and immediately upon removal of gloves.

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- If using phenol and chloroform together, North Silver Shield/4H gloves are to be worn.

LAB COATS, ETC.

- Button lab coats, closed toed shoes, long pants and long sleeved clothing shall be worn when handling PHENOL. Protective clothing shall be worn to prevent any possibility of skin contact with PHENOL.

Work Practices

- Labs using Phenol or reagents containing Phenol (TRIZOL) will have PEG or Glycerin in the event of dermal exposure (See First Aid, below).
- Purchase in a shatter-resistant container if available (such as PVC-coated glass).
- Keep containers closed as much as possible.
- Use in the smallest quantities and lowest concentration practicable for the experiment being performed.
- Avoid heating if possible as this increases risk of inhalation exposure.
- After work with phenol is complete, wipe down the work area with soap and water solution.

Special Handling Procedures and Storage Requirements

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



X — Must not be stored together

0 — May be stored together with specific precautions

+ — May be stored together

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

Waste Disposal

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- Excess PHENOL and all waste material containing PHENOL must be placed in a glass container labeled with the following **“HAZARDOUS WASTE PHENOL”**.
- Contact EHS at x3427 for hazardous waste removal.

Emergency Numbers

Emergency Numbers:

Fire and Medical Emergencies	x5911 (911 on cell phone)
Environmental Health and Safety	x3427
FastMed Urgent Care (employees)	(336) 714-4616
Student Health (students only)	x5218
Poison Control	800-222-1222

First Aid

FIRST AID

Swallowed:	Give water (if conscious). URGENT MEDICAL ATTENTION.
Eye:	Wash with running water (minimum 15 mins). Medical attention.
Skin:	Remove contaminated clothing. Swab with glycerin, PEG or methylated spirit.
Inhaled:	Fresh air. Rest, keep warm. If breath shallow, give oxygen. Medical attention.
Advice To Doctor:	Vegetable oils retard GI absorption. Saline catharsis or activated charcoal. Consider methylene blue for poisoning.

Spill and Accident Procedure



WAKE FOREST
UNIVERSITY

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MINOR SPILLS

- ▶ Clean up waste regularly and abnormal spills immediately.
- ▶ Avoid breathing dust and contact with skin and eyes.
- ▶ Wear protective clothing, gloves, safety glasses and dust respirator.
- ▶ Use dry clean up procedures and avoid generating dust.
- ▶ Vacuum up or sweep up. **NOTE:** Vacuum cleaner must be fitted with an exhaust micro filter (HEPA type) (consider explosion-proof machines designed to be grounded during storage and use).
- ▶ Dampen with water to prevent dusting before sweeping.
- ▶ Place in suitable containers for disposal.