

## Guidance: Safe Use of Phenol

### ABOUT PHENOL

Phenol is **Toxic if swallowed, inhaled or absorbed and is corrosive if in contact with skin or 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.

H411 Toxic to aquatic life with long lasting effects.

Phenol is used in laboratories for DNA, RNA extractions amongst other uses and may be found in proprietary formulations (e.g. TRIzol®)



The main 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 anaesthetising properties, skin burns may be painless. Phenol may be fatal if swallowed, inhaled or absorbed through the skin.

### PERSONAL PROTECTIVE EQUIPMENT AND SAFE USE

Do not breathe dust / fume / gas / mist / vapours / spray.

Phenol should only be handled in an appropriate fume hood/cupboard. Avoid handling on open lab bench.

Skin protection: Handle with gloves (BS EN 374-1, Type A, PPE Category III, butyl or neoprene recommended or other gloves with chemical resistance).

Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Dispose of contaminated gloves after use in yellow clinical waste bags.

Laboratory coats (e.g. Howie style which protects neck and wrist areas) and appropriate safety face/eyewear (chemical splash resistant goggles and/or a face shield where splashing is possible) must be worn when handling phenol.

### HANDLING

Avoid heat, flames and ignition sources during handling. Hot liquid phenol will attack aluminium, 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 (strong oxidisers, strong acids or bases) and out of direct sunlight.

### FIRST AID

If swallowed: Rinse mouth with water. Do not induce vomiting.

If on skin (or hair): Remove all contaminated clothing immediately. Rinse skin with water/shower for a minimum of 20 minutes.

If inhaled: Remove person to fresh air.

If in eyes: Rinse cautiously with water for a minimum of 20 minutes. Remove contact lenses (if present and easy to do).

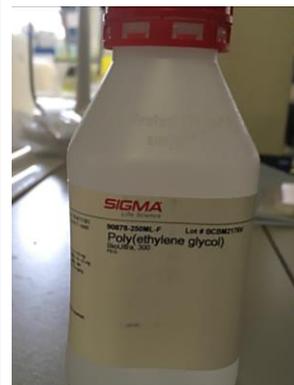
## Guidance: Safe Use of Phenol

Phenol burns to the skin must be treated with Polyethylene glycol 300 (PEG).

Remove any chemicals from the skin by running the affected area under warm tap water for 20 minutes to remove any phenol which may be lying on the surface of the skin (not yet absorbed).

After the initial irrigation with water, swab / wipe affected area repeatedly with a solution of Polyethylene Glycol 300 (PEG) for 30 minutes, frequently changing the swab for a fresh swab soaked with PEG.

Chemicals burns should be assessed by a Health Care Professional, either at A&E or an NHS walk-in center depending on the depth, size and extent of the burn area / pattern.



### PHENOL SPILLS

Laboratory personnel may safely clean up small spills but larger spills (> 100 mL) require respiratory protection. If you feel you can safely clean up a spill do so on the advice of the Lab Manager/Safety Officer. Remember spills in fume hoods are safer to clean up because you are protected from inhalation.

To clean up a spill, use absorbent material or granules to soak up the liquid. Safely place the soaked absorbent material in a fume hood, and pack it inside a clear plastic bag for disposal. Attach a waste tag on the bag, complete a waste removal form and mail the form to QM waste disposal (HSD).

For larger spills evacuate the area, cordon off, call QMUL emergency Number **3333** (QMUL Security) to call out necessary emergency services. Inform the area responsible person and HSD as soon as possible.

### DISPOSAL

Do not dispose Phenol down a laboratory sink. Do not let phenol enter drains.

Discharge into the environment must be avoided.

Phenol and phenol-contaminated materials must be disposed of as hazardous chemical waste.

### FURTHER INFORMATION

Disposal of laboratory hazardous waste: <http://www.hsd.qmul.ac.uk/a-z/hazardous-waste/>

Personal Protective Equipment: [http://www.hsd.qmul.ac.uk/a-z/personal-protective-equipment-ppe-\\_-rpe/](http://www.hsd.qmul.ac.uk/a-z/personal-protective-equipment-ppe-_-rpe/)

QMUL Laboratory Emergency Spill Protocol (Chemical, solvent, biological)

[http://www.hsd.qmul.ac.uk/media/hsd/documents/standards-and-guidance/QMUL\\_HS\\_133-Laboratory-Chemical-Solvent-Biological-Spill\\_Emergency-Protocol\\_October-2017.docx](http://www.hsd.qmul.ac.uk/media/hsd/documents/standards-and-guidance/QMUL_HS_133-Laboratory-Chemical-Solvent-Biological-Spill_Emergency-Protocol_October-2017.docx)

First Aid <http://www.hsd.qmul.ac.uk/a-z/first-aid/>