

## STANDARD OPERATING PROCEDURE

### Phenol

Zhou Lab, Institute for Environmental Genomics

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2030 SRTC, 5-4403

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Minimum Personal Protective Equipment Required: Nitrile gloves (double gloved), eye protection, skin and body protection (long pants, lab coat, and closed toed shoes)

Risks: Phenol is highly corrosive and can cause severe burns, Toxic if absorbed through the skin or inhaled, May be a reproductive hazard, Flammable

#### Special Handling:

- ✓ Always use phenol in a certified fume hood
- ✓ Combination with chloroform enhances the ability of phenol to be absorbed by the skin. Wear nitrile gloves, double gloved, and change outermost glove if exposed to chloroform:phenol
- ✓ Neoprene gloves (located above acid baths in 2040) are recommended for longer-term use or with higher concentrations of phenol
- ✓ Transport containers of phenol on a cart or in a bottle carrier
- ✓ Note: the main component of Trizol, used in RNA extraction, is phenol

#### Protocol/Procedure:

1. Place container of phenol in fume hood before opening. Keep bottle at least 6 inches (15 cm) from edge of hood.
2. Keep lid on phenol container when not in use.
3. Be aware of skin absorption as a possible route of exposure. Plan work so that minimal glove contact is expected. If glove is contaminated, remove immediately and replace with a fresh glove
4. Return phenol bottle to flammables cabinet underneath hood

#### Skin Exposure:

1. Phenol first aid kits are located across from fume hoods.
2. If phenol gets in contact with skin, use polyethylene glycol to remove dermal contamination.
3. Wash yourself in the emergency shower or sink with soap and water for 15 minutes

#### Waste Disposal:

5. Phenol waste should be transferred to a waste container in the fume hood.
6. There are empty 4 L bottles that can be used for waste disposal in the knee hole across from the hood in 2030.

7. When you put out a new waste bottle, make sure you label the bottle before putting waste into it. Labels for waste containers are located in a folder on the side of each hood or at Joy's desk. List the chemical(s) that will be put into the bottle (for example, Chloroform Waste).
8. When the bottle is near full, it should be taken down to the storeroom for disposal. See *Waste Disposal SOP* for details.
9. Make sure you replace caps on all phenol bottles and waste containers.
10. Tubes, pipettes, tips, empty bottles etc. that have phenol (or Trizol) residue on them should be treated as solid waste.
  - a. Place in the small waste buckets designated for solid phenol waste
  - b. Replace lid after discarding

In Case of Spill:

- ✓ Assess the extent of danger.
- ✓ Small (< 4 L):
  - Alert people in immediate area of spill.
  - Avoid breathing vapors from spill.
  - Confine spill to as small an area as possible.
  - Do not wash spill down the drain.
  - Use appropriate personal protective equipment and clean-up material for chemical spilled (spill kits are located next to each fume hood).
  - Collect contaminated materials and residues and place in container for disposal as hazardous waste.
  - Clean spill area with water.
- ✓ Large (> 4 L):
  - Dial 911 for assistance
  - Close off area of spill
  - Have person available that has knowledge of incident and laboratory to assist emergency personnel