



HAZARD ALERT: PHENOL BURNS CAN BE FATAL

MINIMIZE VOLUMES HANDLED, PROTECT SKIN AND PREPARE A **PHENOL EXPOSURE KIT!**

Phenol



DANGER

Labs using phenol must have a lab-specific SOP. Use OESO's fillable [Phenol Guideline](#).



Second degree burns caused by skin exposure to 15% phenol solution. From *Burns* 32 (2006), p 517-521.

Several Duke employees have experienced painful burns from very small (milliliter) splashes of phenol. Splashing a larger amount on the skin could be fatal—in addition to causing burns, phenol absorbs rapidly through the skin and can affect the nervous system, liver, circulatory system, lungs and/or kidneys. A splash to the eyes could cause blindness.

To prevent phenol burns:

- Purchase phenol in the smallest feasible volumes, in the desired concentration when possible. (For some clinical uses, single application swabs are available—contact OESO for details.)
- Wear appropriate PPE:
 - ⇒ **Minimum:** Safety goggles, lab coat buttoned to neck and extending to wrists, and two pairs 4-mil (or 1 pair 8-mil) nitrile gloves with extended cuffs. **WARNING:** phenol can penetrate 8-mil thick nitrile gloves within 10 minutes. Plan tasks to avoid glove contact. **If splashed, change gloves immediately.** (If glove contact cannot be avoided, use Viton® or butyl gloves, or nitrile over Silver Shield.)
 - ⇒ **If splash is possible:** Chemical face shield over splash goggles; chemical resistant gown OR lab coat with impervious apron and chemical resistant sleeves (coated Tyvek or Silver Shield).
 - ⇒ **Employees with conditions that increase skin permeability:** Use more protective gloves/clothing for affected area. Examples: Viton®, butyl, or nitrile over Silver Shield gloves for hands, or an impervious apron for torso.

First Aid materials and instructions (in case of exposure):

- All areas using phenol should keep ≥ 1 L undiluted polyethylene glycol (PEG-300 or PEG-400, both viscous liquids) and other supplies indicated as part of the [Phenol Exposure Kit](#) in OESO's [Phenol Guideline](#).
- For skin exposures, follow the [First Aid Instructions](#) in OESO's [Phenol Guideline](#). Be aware that skin exposures affecting more than 100 cm² of skin require an emergency room visit. Phenol can act as a local anesthetic and can cause extensive damage before pain is felt.