

Common Name: **PHENOL**

Synonyms: Carbolic Acid; Hydroxybenzene

CAS No: 108-95-2

 Molecular Formula: C₆H₅OH

RTK Substance No: 1487

Description: Colorless or white, crystalline solid that is usually sold or used in solution

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
4 - Health 2 - Fire 0 - Reactivity DOT#: UN 1671 ERG Guide #: 153 Hazard Class: 6.1 (Poison)	Phenol is a COMBUSTIBLE SOLID. Use dry chemical, CO ₂ , water spray or alcohol-resistant foam as extinguishing agents. POISONOUS GASES ARE PRODUCED IN FIRE. Use water spray to keep fire-exposed containers cool.	Phenol is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); ALUMINUM CHLORIDE; CALCIUM HYPOCHLORITE; STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); FORMALDEHYDE; ISOCYANATES; BUTADIENE; SODIUM NITRITE; and many other materials. Phenol is corrosive to COPPER, BRASS and STAINLESS STEELS.

SPILL/LEAKS
Isolation Distance:

 Spill: 25 meters (75 feet) (Solid)
 50 meters (150 feet) (Liquid)

Fire: 800 meters (1/2 mile)

 For **Phenol** in *solution*, cover with sand and place into sealed containers for disposal.

 Collect *solid* material in the most convenient and safe manner and place into sealed containers for disposal.

DO NOT wash into sewer.

Neutralize water spills with dry lime or soda ash.

Phenol is harmful to aquatic life at very low concentrations.

PHYSICAL PROPERTIES

Odor Threshold:	0.4 ppm
Flash Point:	175°F (79.4°C)
LEL:	1.3%
UEL:	8.6%
Auto Ignition Temp:	1,319°F (715°C)
Vapor Density:	3.2 (air = 1)
Vapor Pressure:	0.4 mm Hg at 68°F (20°C)
Specific Gravity:	1.1 (water = 1)
Water Solubility:	Soluble
Boiling Point:	358°F (181°C)
Melting Point:	106°F (41°C)
Ionization Potential:	8.5 eV
Molecular Weight:	94.1
pH:	6 (aqueous solution)

EXPOSURE LIMITS
OSHA: 5 ppm, 8-hr TWA

NIOSH: 5 ppm, 10-hr TWA; 15.6 ppm, 15-min Ceiling

ACGIH: 5 ppm, 8-hr TWA

IDLH: 250 ppm

The Protective Action Criteria values are:

PAC-1 = 15 ppm PAC-2 = 23 ppm PAC-3 = 200 ppm

PROTECTIVE EQUIPMENT

Gloves:	Butyl, Silver Shield®/4H®, Viton and Barrier® (>8-hr breakthrough)
Coveralls:	Tychem® BR, Responder®, and TK; Trelchem® HPS and VPS (>8-hr breakthrough)
Respirator:	>5 ppm - full facepiece APR with <i>Organic vapor cartridges</i> and <i>High efficiency prefilters</i> >50 ppm - SCBA

HEALTH EFFECTS
Eyes: Irritation and burns

Skin: Irritation and burns

Inhalation: Nose, throat and lung irritation with coughing and severe shortness of breath (pulmonary edema)

Methemoglobinemia with headache, dizziness, lightheadedness and passing out

FIRST AID AND DECONTAMINATION
Remove the person from exposure.

Flush eyes with large amounts of water for at least 30 minutes. Remove contact lenses if worn. Seek medical attention.

Quickly remove contaminated clothing and wash contaminated skin with large amounts of water. Seek medical attention.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer promptly to a medical facility.

Medical observation is recommended as symptoms may be delayed.