

# Safety Data Sheet

## Phenol, Liquid

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1 Product Description

**Product Name:** Phenol, Liquid  
**Recommended Use:** Science education applications  
**Synonyms:** Carboic Acid, Liquid Phenol  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**



Combustible Liquid Harmful if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. Fatal if inhaled. Suspected of causing genetic defects. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life.

**GHS Classification:**

Acute Toxicity - Inhalation Vapor Category 1, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity - Inhalation Dust / Mist Category 2, Germ Cell Mutagenicity Category 2, Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category 2, Hazardous to the aquatic environment - Acute Category 2, Acute Toxicity - Dermal Category 3, Flammable Liquid Category 4, Acute Toxicity - Oral Category 4

**Other Safety Precautions:** IF exposed or concerned: Get medical advice/attention.

### Section 3 Composition / Information on Ingredients

| <u>Chemical Name</u> | <u>CAS #</u> | <u>%</u> |
|----------------------|--------------|----------|
| Phenol               | 108-95-2     | 88       |
| Water                | 7732-18-5    | 12       |

### Section 4 First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**Skin Contact:** IF ON SKIN: Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
**Ingestion:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

### Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical, CO2 or appropriate foam.

# Safety Data Sheet

|  |   |
|--|---|
| <b>Fire Fighting Methods and Protection:</b> | Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus. |
| <b>Fire and/or Explosion Hazards:</b>        | Above flashpoint, explosive vapor-air mixtures may be formed.   |
| <b>Hazardous Combustion Products:</b>        | Carbon dioxide, Carbon monoxide   |

## Section 6 Spill or Leak Procedures

|   |  |
|---|--|
| <b>Steps to Take in Case Material Is Released or Spilled:</b> | Exposure to the spilled material may be severely irritating or highly toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Clean up spills immediately using Protective Equipment recommended in Section 8 at a minimum. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Block any potential routes to water systems. |
|---|--|

## Section 7 Handling and Storage

|                      |  |
|----------------------|--|
| <b>Handling:</b>     | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required. Wear respiratory protection. Wear suitable gloves. Avoid direct sunlight and heat. Keep away from sources of ignition - No smoking. |
| <b>Storage:</b>      | Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed in a cool, well-ventilated place.   |
| <b>Storage Code:</b> | Blue - Toxic. Store separately in a secured area.  |

## Section 8 Protection Information

| <u>Chemical Name</u> | <u>ACGIH</u> |               | <u>OSHA PEL</u>         |               |
|----------------------|--------------|---------------|-------------------------|---------------|
|                      | <u>(TWA)</u> | <u>(STEL)</u> | <u>(TWA)</u>            | <u>(STEL)</u> |
| Phenol               | 5 ppm TWA    | N/A           | 5 ppm TWA; 19 mg/m3 TWA | N/A           |

|   |  |
|---|--|
| <b>Control Parameters</b>                   |  |
| <b>Engineering Measures:</b>                | Local exhaust ventilation, process enclosures, or other engineering controls are necessary when handling or using this product to avoid overexposure.  |
| <b>Personal Protective Equipment (PPE):</b> | Lab coat, apron, eye wash, safety shower.  |
| <b>Respiratory Protection:</b>              | Respiratory protection will be required when handling this product. Use respirators only if ventilation cannot be used to eliminate symptoms or reduce the exposure to below acceptable levels.  |
| <b>Respirator Type(s):</b>                  | NIOSH approved air purifying respirator with organic vapor cartridge and HEPA filter.  |
| <b>Eye Protection:</b>                      | Wear chemical splash goggles when handling this product. Have an eye wash station available.   |
| <b>Skin Protection:</b>                     | Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. |
| <b>Gloves:</b>                              | Nitrile - Extra Thick (8 mm), Neoprene, Butyl rubber   |

## Section 9 Physical Data

|  |  |
|--|--|
| <b>Formula:</b> C6H5OH                             | <b>Vapor Pressure:</b> 0.35 at 25 °C (Solid) |
| <b>Molecular Weight:</b> 94.12                     | <b>Evaporation Rate (BuAc=1):</b> >1         |
| <b>Appearance:</b> Cloudy (milky) Colorless Liquid | <b>Vapor Density (Air=1):</b> 3.24 (Phenol)  |
| <b>Odor:</b> Moderate Acrid aromatic Sweet         | <b>Specific Gravity:</b> 1.058               |
| <b>Odor Threshold:</b> 0.08 ppm, 0.23 mg/m3        | <b>Solubility in Water:</b> Soluble          |

# Safety Data Sheet

**pH:** No data available  
**Melting Point:** 41 C  
**Boiling Point:** 182 C  
**Flash Point:** 79 C  
**Flammable Limits in Air:** 1.7 - 8.6%

**Log Pow (calculated):** 1.47  
**Autoignition Temperature:** No data available  
**Decomposition Temperature:** No data available  
**Viscosity:** No data available  
**Percent Volatile by Volume:** No data available

## Section 10

## Reactivity Data

**Reactivity:** Mildly reactive - See below  
**Chemical Stability:** Stable under normal conditions.  
**Conditions to Avoid:** Elevated temperatures  
**Incompatible Materials:** Oxidizing materials, Acetaldehydes, Mineral acids, Metals, Water-reactive materials  
**Hazardous Polymerization:** Will not occur

## Section 11

## Toxicity Data

**Routes of Entry:** Inhalation, ingestion, eye or skin contact.  
**Symptoms (Acute):** Central Nervous System Disorders, Cardiovascular system, Impaired Kidney Function, Respiratory disorders, Numbness  
**Delayed Effects:** No data available

### Acute Toxicity:

| Chemical Name | CAS Number | Oral LD50                 | Dermal LD50                  | Inhalation LC50               |
|---------------|------------|---------------------------|------------------------------|-------------------------------|
| Phenol        | 108-95-2   | Oral LD50 Rat 512 mg/kg   | Dermal LD50 Rabbit 630 mg/kg | INHALATION LC50 Rat 316 MG/M3 |
| Water         | 7732-18-5  | Oral LD50 Rat 90000 mg/kg |                              |                               |

### Carcinogenicity:

| Chemical Name | CAS Number | IARC       | NTP        | OSHA       |
|---------------|------------|------------|------------|------------|
| Phenol        | 108-95-2   | Not listed | Not listed | Not listed |

### Chronic Effects:

**Mutagenicity:** Evidence of a mutagenic effect.  
**Teratogenicity:** No evidence of a teratogenic effect (birth defect).  
**Sensitization:** No evidence of a sensitization effect.  
**Reproductive:** No evidence of negative reproductive effects.  
**Target Organ Effects:**  
**Acute:** Kidneys, Central Nervous System, Cardiovascular system, Lungs  
**Chronic:** Kidneys, Liver

## Section 12

## Ecological Data

**Overview:** This material is not expected to be harmful to the ecology.  
**Mobility:** This material is expected to have high mobility in soil. It absorbs weakly to most soil types.  
**Persistence:** Photodegradation, Biodegradation  
**Bioaccumulation:** Bioconcentration is not expected to occur.  
**Degradability:** Biodegrades quickly.  
**Other Adverse Effects:** No data

### Chemical Name

| Chemical Name | CAS Number | Eco Toxicity  |
|---------------|------------|---|
| Phenol        | 108-95-2   | 96 HR LC50 BRACHYDANIO RERIO 27.8 MG/L<br>96 HR LC50 LEPOMIS MACROCHIRUS 13.5 MG/L [STATIC]<br>96 HR LC50 ONCORHYNCHUS MYKISS 5 - 12 MG/L<br>96 HR LC50 PIMEPHALES PROMELAS 32 MG/L<br>48 HR EC50 DAPHNIA MAGNA 10.2 - 15.5 MG/L<br>96 HR EC50 PSEUDOKIRCHNERIELLA SUBCAPITATA 46.42 MG/L |
| Water         | 7732-18-5  | No data available   |

## Section 13

## Disposal Information

# Safety Data Sheet

**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

**Waste Disposal Code(s):** U188 - Phenol

## Section 14 Transport Information

**Ground - DOT Proper Shipping Name:**

UN2821  
Phenol Solutions  
Division 6.1  
P.G. II

**Air - IATA Proper Shipping Name:**

UN2821  
Phenol Solutions  
Division 6.1  
P.G. II

## Section 15 Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

| Chemical Name | CAS Number | § 313 Name | § 304 RQ   | CERCLA RQ                         | § 302 TPQ                            | CAA 112(2) TQ |
|---------------|------------|------------|------------|-----------------------------------|--------------------------------------|---------------|
| Phenol        | 108-95-2   | Phenol     | 1000 lb RQ | 1000 lb final RQ; 454 kg final RQ | 500 lb lower TPQ; 10000 lb upper TPQ | No            |

## Section 16 Additional Information

**Revised:** 09/09/2015

**Replaces:** 09/03/2014

**Printed:** 10-29-2015

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### Glossary

|        |   |      |   |
|--------|---|------|---|
| ACGIH  | American Conference of Governmental Industrial Hygienists             | NTP  | National Toxicology Program                   |
| CAS    | Chemical Abstract Service Number                                      | OSHA | Occupational Safety and Health Administration |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act | PEL  | Permissible Exposure Limit                    |
| DOT    | U.S. Department of Transportation                                     | ppm  | Parts per million                             |
| IARC   | International Agency for Research on Cancer                           | RCRA | Resource Conservation and Recovery Act        |
| N/A    | Not Available   | SARA | Superfund Amendments and Reauthorization Act  |
|        |   | TLV  | Threshold Limit Value                         |
|        |   | TSCA | Toxic Substances Control Act                  |
|        |   | IDLH | Immediately dangerous to life and health      |