Safety Data Sheet

Phenol, Liquid

CAROLINA®
www.carolina.com

Section 1 Product Description

Product Name:	Phenol, Liquid
Recommended Use:	Science education applications
Synonyms:	Carbolic 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

Chemical Name	CAS #	%
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.

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

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: 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

Handling: 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 no 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.
Storage: 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.
Storage Code: Blue - Toxic. Store separately in a secured area.

Section 8 Protection Information

	ACGIH		OSHA PEL	
Chemical Name	**(TWA)**	**(STEL)**	**(TWA)**	**(STEL)**
Phenol	5 ppm TWA	N/A	5 ppm TWA; 19 mg/m3 TWA	N/A

Control Parameters
Engineering Measures: Local exhaust ventilation, process enclosures, or other engineering controls are necessary when handling or using this product to avoid overexposure.
Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.
Respiratory Protection: 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.
Respirator Type(s): NIOSH approved air purifying respirator with organic vapor cartridge and HEPA filter.
Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.
Skin Protection: 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.
Gloves: Nitrile - Extra Thick (8 mm), Neoprene, Butyl rubber

Section 9 Physical Data

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

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

Section 13 Disposal Information

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

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