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Material Safety Data Sheet Phenol, Crystallized

ACC# 18380

Section 1 - Chemical Product and Company Identification

MSDS Name: Phenol, Crystallized

Catalog Numbers: S80118, S801181, S801181MF, A91-212, A91-500, A911 212, A911 500, A911-212, A911-250, A911-500, A911212, A911500, A92 100, A92 112, A92 500, A92-100, A92-112, A92-500, A92100, A92112, A92500, BP226-100, BP226-500

Synonyms: Carboic Acid, Phenylic Acid, Hydroxybenzene, Monohydroxybenzene, Phenyl Hydroxide

Company Identification:

Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
108-95-2	Phenol	100	203-632-7

Hazard Symbols: T C

Risk Phrases: 34 24/25

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white. Flash Point: 174 deg F. **Danger!** Corrosive. Toxic. May cause centralnervous system effects. Causes digestive

and respiratory tractburns. May cause liver and kidney damage. Causes severe eye and skinburns. May cause reproductive and fetal effects. May be fatal ifinhaled. Harmful if swallowed or absorbed through the skin.

Target Organs: Kidneys, central nervous system,liver.

Potential Health Effects

Eye: Contact with liquid or vapor causes severe burns and possible irreversible eye damage.

Skin: Causes severe skin irritation. May be fatal if absorbed through the skin. Harmful if absorbed through the skin. Causes symptoms similar to those of inhalation. May cause severe pain, swelling, tissue destruction, and possible shock. Direct skin contact results in white, wrinkled discoloration, followed by severe burns. Phenol solutions may be absorbed through the skin rapidly to cause systemic poisoning and possible death.

Ingestion: Harmful if swallowed. Symptoms may include: headache, excitement, fatigue, nausea, vomiting, stupor, and coma. May cause liver and kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Causes digestive tract burns with immediate pain, swelling of the throat, convulsions, and possible coma.

Inhalation: Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. May be fatal if exposed to high concentrations. May be harmful if inhaled. May also cause pallor, loss of appetite, nausea, vomiting, diarrhea, weakness, darkened urine, headache, sweating, convulsions, cyanosis, unconsciousness, fatigue, pulmonary edema and coma.

Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. May cause liver and kidney damage. Repeated skin contact may cause dermatitis with dark pigmentation of the skin.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed.

Skin: Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure. SPEEDY ACTION IS CRITICAL!

Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. DO NOT use mouth-to-mouth respiration. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Firefighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water spray to keep fire-exposed containers cool.

Extinguishing Media: Use agent most appropriate to extinguish fire. In case of fire, use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.

Autoignition Temperature: 1319 deg F (715.00 deg C)

Flash Point: 174 deg F (78.89 deg C)(estimated) Health: ; Flammability: ; Reactivity: Explosion Limits, Lower: 1.7 Upper: 8.6

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use only in a well ventilated area. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Wash clothing before reuse.

Storage: Keep away from heat and flame. Keep away from sources of ignition. Keep container closed when not in use. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Phenol	5 ppm ; 19 mg/m ³ ; skin - potential for cutaneous absorption	5 ppm TWA; 19 mg/m ³ TWA 250 ppm IDLH	5 ppm TWA; 19 mg/m ³ TWA

OSHA Vacated PELs: Phenol: 5 ppm TWA; 19 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white

Odor: sweet, fruity odor - sharp odor

pH: 6 aqueous solution

Vapor Pressure: .36 mm Hg

Vapor Density: 3.2

Evaporation Rate:

Viscosity: 12.7 centipoise

Boiling Point: 359 deg F
Freezing/Melting Point: 106 deg F
Decomposition Temperature: Not available.
Solubility: Soluble in ethanol, moderately soluble w
Specific Gravity/Density: 1.07 (water=1)
Molecular Formula: C₆H₅OH
Molecular Weight:

Section 10 - Stability and Reactivity

Chemical Stability: Stable.
Conditions to Avoid: Temperatures above recommended temperatures, incompatible materials, ignition sources, dust generation.
Incompatibilities with Other Materials: Incompatible with strong oxidizing agents, alkalies, nitric acid, calcium hypochlorite, and halogens, Mixtures with nitrobenzene and aluminum chloride may violently explode. It coagulates colodion and proteins. Hot liquid phenol will attack aluminum, magnesium, lead, and zinc metals.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 108-95-2: SJ3325000
LD50/LC50:
CAS# 108-95-2:
Inhalation, mouse: LC50 = 177 mg/m³;
Inhalation, rat: LC50 = 316 mg/m³;
Oral, mouse: LD50 = 270 mg/kg;
Oral, rat: LD50 = 317 mg/kg;
Skin, rabbit: LD50 = 850 mg/kg;
Skin, rat: LD50 = 669 mg/kg;
Carcinogenicity:
CAS# 108-95-2:
ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Group 3 carcinogen
Epidemiology: No data available.
Teratogenicity: No data available.
Reproductive Effects: No data available.
Neurotoxicity: No data available.
Mutagenicity: No data available.
Other Studies: No data available.

Section 12 - Ecological Information

Ecotoxicity: Not available.
Environmental Fate: Will not be expected to significantly bioconcentrate in aquatic organisms.
Physical/Chemical: Hydrolytic and photolytic stability: In water, phenol will not be expected to significantly hydrolyze. Phenol absorbs light in the region 290-330 nm and therefore might directly photodegrade.
Other: 96-hour LC50=11 mg/l for *Gammarus fasciatus*. 48-hour LC50=11.2 mg/l in *Leuciscus idus*. NOEC= 1 mg/l for *Lolium perenne* and *Raphanus sativus* in a plant germination study.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.
RCRA D-Series Maximum Concentration of Contaminants: None listed.
RCRA D-Series Chronic Toxicity Reference Levels: None listed.
RCRA F-Series: None listed.
RCRA P-Series: None listed.
RCRA U-Series: CAS# 108-95-2: waste number U188.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TD
Shipping Name:	PHENOL, SOLID	No information available.	No information available.	No information available. PHENOL SOLID	
Hazard Class:	6.1			6.1(9.2)	
UN Number:	UN1671			UN1671	
Packing Group:	II			II	

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 108-95-2 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 108-95-2: Effective date: June 1, 1987; Sunset Date: June 1, 1997

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

CAS# 108-95-2: export notification required - Section 4

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)

CAS# 108-95-2: final RQ = 1000 pounds (454 kg)

Section 302 (TPQ)

CAS# 108-95-2: TPQ = 500/10,000 pounds; RQ = 1000 pounds

SARA Codes

CAS # 108-95-2: acute, chronic, flammable.

Section 313

This material contains Phenol (CAS# 108-95-2, 100%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 108-95-2 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 108-95-2 is listed as a Hazardous Substance under the CWA. CAS# 108-95-2 is listed as a Priority Pollutant under the Clean Water Act. CAS# 108-95-2 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 108-95-2 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives

Hazard Symbols:

T C

Risk Phrases:

R 34 Causes burns. R 24/25 Toxic in contact with skin and if swallowed.

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 108-95-2: 2

Canada

CAS# 108-95-2 is listed on Canada's DSL/NDSL List.

This product has a WHMIS classification of D1A, E.

CAS# 108-95-2 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 108-95-2: OEL-ARAB Republic of Egypt:TWA 5 ppm (19 mg/m³);Skin

OEL-AUSTRALIA:TWA 5 ppm (19 mg/m³);Skin OEL-BELGIUM:TWA 5 ppm (19

mg

/m³);Skin OEL-CZECHOSLOVAKIA:TWA 20 mg/m³;STEL 40 mg/m³

OEL-DENMARK:

TWA 5 ppm (19 mg/m³);Skin OEL-FINLAND:TWA 5 ppm (19 mg/m³);STEL 10

pp

m (38 mg/m³);Skin OEL-FRANCE:TWA 5 ppm (19 mg/m³);Skin

OEL-GERMANY:T

WA 5 ppm (19 mg/m³);Skin OEL-HUNGARY:TWA 4 mg/m³;STEL 8 mg/m³;Skin

O

EL-JAPAN:TWA 5 ppm (19 mg/m³);Skin OEL-THE NETHERLANDS:TWA 5 ppm

(19

mg/m³);Skin OEL-THE PHILIPPINES:TWA 5 ppm (10 mg/m³);Skin

OEL-POLAND

:TWA 10 ppm OEL-RUSSIA:TWA 5 ppm;STEL 0.3 mg/m³;Skin

OEL-SWEDEN:TWA

1 ppm (4 mg/m³);STEL 2 ppm (8 mg/m³);Skin OEL-SWITZERLAND:TWA 5 ppm

(

19 mg/m³);STEL 10 ppm (38 mg/m³);Skin OEL-THAILAND:TWA 5 ppm (19

mg/m

3) OEL-TURKEY:TWA 5 ppm (19 mg/m³);Skin OEL-UNITED KINGDOM:TWA 5

ppm

(19 mg/m³);STEL 10 ppm;Skin OEL IN BULGARIA, COLOMBIA, JORDAN,

KOREA

check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check

ACGI TL

V

Section 16 - Additional Information

MSDS Creation Date: 12/28/1994

Revision #12 Date: 6/23/1998

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