

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Trade name PH40

Synonyms Phenol

MSDS and Product Information (8:00am-4:30pm CST) (713) 428 5400

Health and Safety Information (8:00am-4:00pm CST) (713) 428 5400

SECTION 2 COMPOSITION AND INFORMATION ON INGREDIENTS

Components CAS-No. Weight %

Phenol 108-95-2 100

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance

White to amber liquid or crystalline solid

Odor

Antiseptic

Precautions

DANGER! CAUSES SEVERE BURNS. COMBUSTIBLE LIQUID Harmful if inhaled.

Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling.

Environmental

precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate any lakes, streams, ponds, groundwater or soil.

POTENTIAL HEALTH EFFECTS

Eyes Contact can cause severe irritation and burns of the eyes with possible permanent damage.

Skin Rapidly absorbed through skin. Causes severe burns which may not be immediately painful or visible. Absorption through skin can cause massive intravascular hemolysis, rapid heartbeat, respiratory depression, kidney injury, liver damage and death.

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Inhalation Inhalation of vapors is irritating to the respiratory system, may cause throat pain and cough.

Ingestion Harmful or fatal if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Higher exposure may cause lung edema, circulatory collapse and unconsciousness. If swallowed can cause transient CNS stimulation followed by CNS depression

Target Organs Lungs, Kidney, Liver, Central nervous system, Heart, Pancreas, Spleen,

Additional advice Rapid absorption and severe systemic toxicity can occur after any route of exposure.

Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

(See Section 11 for Toxicological Information)

SECTION 4 FIRST AID MEASURES

Eye contact Danger of very serious irreversible effects. Rinse immediately with plenty of water, also

under the eyelids, for at least 15 minutes. Remove contact lenses. Obtain medical attention.

Skin contact Take off contaminated clothing and shoes immediately. If possible, quickly blot material

from skin to avoid spreading it. Rapid skin decontamination is critical. Wash off immediately with plenty of water. Wash off with polyethylene glycol and afterwards with plenty of water. Apply PEG/EtOH solution liberally to affected area. Allow to remain 15 to 30 seconds, then wash with water. Continue cycle of water - PEG/EtOH solution for at least 15 minutes (PEG/EtOH solution consists of 2 parts polyethylene glycol 400 to 1 part ethanol. For external use only.) Wash off with soap and water. Obtain medical attention. Wash contaminated clothing before re-use.

Inhalation Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration.

If breathing is difficult, give oxygen. Keep patient warm and at rest. Obtain medical attention.

Ingestion If accidentally swallowed obtain immediate medical attention. Immediately give plenty of

water (if possible charcoal slurry). Do NOT induce vomiting.

Additional advice There is no specific antidote. Treatment consists of support of respiratory and cardiovascular functions.

SECTION 5 FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flash point

79 °C 174 °F

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Autoignition

temperature

715 °C 1,319 °F

Flammable limits in

air % by volume

Lower explosion limit: 1.7 %(V)

Upper explosion limit: 8.6 %(V)

Fire and explosion Fire or intense heat may cause violent rupture of packages. Material will burn in a fire.

Extinguishing media Water spray or fog, foam, dry chemical, CO₂. Do NOT use water jet.

Fire fighting

instructions

Wear self-contained breathing apparatus and protective suit.

Further information

Evacuate personnel to safe areas. Stop source of fuel if possible. Keep containers and surroundings cool with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Avoid contact with runoff water. Potential hazard exists from Cresylic acid vapors carried downwind.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Steps to be taken in

case of spill or leak

Evacuate the area and eliminate all sources of ignition. Only properly trained personnel should respond to spills or leaks. Use personal protective equipment. Land spill: Contain spilled liquid with sand, absorbent material, or concrete dikes for recovery or disposal. Do not flush into surface water or sanitary sewer system. Soak up with inert absorbent material and dispose of as hazardous waste. Water spill: Contain spill with booms. Remove material that settles in deeper areas of waterway. Cresylic acids tend to sink in fresh water and float in concentrated brine. Non-disposable equipment should be thoroughly decontaminated with soap and water. Prevent further leakage or spillage if safe to do so. Do not contaminate any lakes, streams, ponds, groundwater or soil.

Reporting

Requirements

Composition and extent of any spill should be evaluated against local regulations and reported to the proper agencies, if necessary.

SECTION 7 HANDLING AND STORAGE

Safe handling advice

Use only in well-ventilated areas. Use only in an area equipped with a safety shower. Handle and open container with care. Do not use pressure to empty drums. Heat only in areas with appropriate exhaust ventilation. Drums should be vented during melting and unloading. Transfer lines and vents should be heated when working with freezable material to avoid pressure differences due to blockages. Vapors should be routed through an appropriate scrubber or flare to avoid release to the atmosphere. Avoid overheating as it may lead to excessive vapors, discoloration, and spillage caused by thermal expansion.

Storage and handling

materials

Suitable: TANKS: carbon steel stainless steel

Unsuitable: Avoid use of aluminum, copper or brass alloys in storage or process equipment which will contact this material

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Shelf life

Keep container tightly closed in a dry and well-ventilated place. Keep away from food, drink and animal feeding stuffs. Keep away from sources of ignition - No smoking. Inert gas blanket and breathing system needed to maintain color stability.

Further information

on storage conditions

Corrosive. Hygroscopic. May exhibit supercooling and crystallize rapidly when seeded or subjected to physical shock.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES

Provide adequate ventilation. Mechanical ventilation may be necessary if working with this product in enclosed areas and/or at elevated temperatures. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

PERSONAL PROTECTIVE EQUIPMENT

Eyes

When contact with liquid is possible, use a face shield and/or chemical splash goggles. Otherwise use safety glasses with side shields or goggles.

Skin

Full protective clothing, chemical boots, and chemical gloves. Heavy PVC or butyl-viton gloves are recommended. Non-disposable equipment should be thoroughly decontaminated with soap and water.

Inhalation

NIOSH-approved organic vapor air-purifying respirator, self-contained breathing apparatus, or air-supplied respirators where there may be potential for overexposure.

EXPOSURE GUIDELINES

Components Exposure limit(s)

Phenol OSHA PEL 5 ppm

ACGIH TLV (8-hour) 5 ppm

Naphthalene OSHA PEL 10 ppm

ACGIH TLV (8-hour) 10 ppm

ACGIH STEL 15 ppm

PEL= Permissible Exposure Limits TWA= Time Weighted Average (8 hr.)

TLV= Threshold Limit Value STEL= Short Term Exposure Limit (15 min.)

EL= Excursion Limit WEEL= Workplace Environmental Exposure Level

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance

liquid or crystalline solid

Color

White to amber

Odor

Antiseptic

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Form

liquid or crystalline solid

Boiling point/range

182 °C 360 °F

Vapor pressure

0.35 mm Hg @ 25 °C

Vapor density

3.24

Solubility (water)

80 g/l @ 25 °C

Viscosity, dynamic

3 mPa.s @ 50 °C

Melting point/range

40 °C 104 °F

Density

1.05 g/cm³ @ 45 °C

pH 5.5**LogKow 1.46****SECTION 10 STABILITY AND REACTIVITY****Conditions to avoid**

Stable under normal conditions.

Hazardous**decomposition****products**

Combustion products include carbon dioxide, carbon monoxide and possibly other unidentified organic compounds.

Incompatibility with**other materials**

strong oxidizing agents

Hazardous**polymerization**

Hazardous polymerization does not occur.

SECTION 11 TOXICOLOGICAL INFORMATION**Additional Remarks****Phenol**

Absorption through skin can cause massive intravascular hemolysis, rapid heartbeat, respiratory depression, kidney injury, liver damage and death. Chronic absorption via any route may result in bluish or brownish discoloration of the tendons (carbolochronosis).

Eyes

Phenol Corrosive to eyes.

Skin

Phenol Acute dermal LD50 (rabbit): 850 - 1,400 mg/kg

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Inhalation

Phenol Acute LC50 (rat): 0.31 mg/l

Repeated inhalation at high concentrations may cause damage to lung, heart, liver and kidneys, sensitivity to light and death.

Ingestion

Phenol Acute oral LD50 (rat): 530 mg/kg

If swallowed can cause death.

Carcinogenicity

Phenol This chemical is not listed for carcinogenicity by IARC, NTP or OSHA.

SECTION 12 ECOLOGICAL INFORMATION

Aquatic toxicity

Phenol LC50 (Fish): 96 hours 5.7 - 56 mg/l

LC50 (Daphnia magna): 21 - 100 mg/l

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal methods

Dispose of only in accordance with local, state, and federal regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

Empty containers

Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14 TRANSPORT INFORMATION

DOT description RQ, Phenol, molten, 6.1, UN 2312, II

IATA description

Phenol, solid, 6.1, UN1671, II

Phenol, molten, 6.1, UN 2312, II

Phenol, solid, 6.1, UN1671, II

IMDG Description Phenol, molten, 6.1, UN 2312, II

Phenol, solid, 6.1, UN1671, II

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SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

OSHA classification

Toxic, Corrosive., Combustible liquid.

TSCA Inventory Listing

Components CAS-No.

Phenol 108-95-2

SARA 302 Status

Components CAS-No. Weight %

Contains no chemicals subject to SARA 302 reporting.

S

ARA 311/312 Classification

"Immediate (acute) health hazard", "Delayed (chronic) health hazard", "Fire hazard"

S

ARA 313 Chemical

Components CAS-No. Weight %

Phenol 108-95-2 100

Naphthalene 91-20-3 0

CERCLA Hazardous Substance

Components CERCLA RQ Weight %

Phenol 1,000 LB 100

Naphthalene 100 LB 0

INTERNATIONAL REGULATIONS

Workplace Hazardous Materials Information System (WHMIS) Classification

Combustible Liquid

Very Toxic Material Causing Immediate and Serious Toxic Effects

Very Toxic Material Causing Other Toxic Effects

Corrosive Material

Australian Inventory of Chemical Substances (AICS) Listing

Listed on the AICS.

Japanese Minister of International Trade and Industry (MITI) Inventory Listing

Listed on MITI.

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Canadian Domestic Substance List (DSL) Inventory Listing

Listed on the DSL.

European Inventory of Existing Commercial Chemical Substances (EINECS) Listing

Listed on EINECS.

Philippines Inventory List (PICCS)

Listed on PICCS.

Korean Inventory List

Listed on the ECL.

China Inventory List

Listed on the China inventory.

STATE REGULATIONS

California Safe Drinking Water Act (Prop 65) Listing

Components CAS-No.

Naphthalene

91-20-3

This product may contain residual amounts of Naphthalene at concentrations typically from less than 10 ppm

to 0.9%. MERISOL does not analyze specifically for Proposition 65 listed chemicals; however, through

process knowledge, the following components may be present at concentrations of less than 100 ppm:

Toluene, Aniline, o-Toluidine, 2,6-Xyldine. Merisol's manufacturing process is intended to minimize

impurities which would include these potential components.

SECTION 16 OTHER INFORMATION

HAZARD RATINGS

Health Flammability Reactivity

NFPA 4 2 0

This material is FOR INDUSTRIAL USE ONLY. The data and information contained herein are being furnished for

informational purposes only, upon the express condition that each customer shall make its own assessment of

appropriate use and appropriate shipping, transport and storage materials and procedures for Merisol's products.

Although based on information sources which Merisol considers accurate and reliable, Merisol makes no warranty,

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expressly disclaims any liabilities for damages or injuries resulting from the use thereof.

Compliance with all applicable

federal, state, and local laws and regulations remains the responsibility of the user.

Phenol-90% Solution

Property	Sales Specifications	Test Method
Appearance (Molten State)	Clear water white liquid	Visual
Color, APHA	20 Max **	D1686-96 (2003)el
Solidification Point, degree C	40.6 Min **	D1493-97
Purity, Wt. %	99.6 Min **	D6142
Water, Wt. %	10%, +/-, 0.5% *	D1631-99

Note: Test Method listed is the ASTM test method. Sunoco utilizes proprietary test methods that are equivalent, or superior to, the listed ASTM method.

*** At time of shipment**

**** Phenol specification prior to addition of water.**

Issue Date: 10/04/2004

Supersedes Date: 03/21/2002

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