Material Safety Data Sheet

InfoSafe No. 8AC7Q
Issue date: 01/03/2013
Product Name: Phenol 80% (Carbolic Acid)
Classified as hazardous

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Phenol 80% (Carbolic Acid)
Product Code: P652694
Product use: Disinfectant, production of aromatic compounds, manufacturing phenolic resins and glues, production of paints, paint removers, wood preservatives, explosives, rubber and cleaning products.
Company Name: BEAUMARIS PHARMACY
IA EAST CONCOURSE
BEAUMARIS 3193
(03) 9589 2676

Other Information:
Beaumaris Pharmacy has taken care in compiling this information. No liability is accepted whether direct or indirect from its application since the conditions of final use are outside the Company's control.

Supplied by: BRIGGATE MEDICAL COMPANY
23-25 Lakewood Blvd
Brasile VIC 3195
(03) 8566 7890

24Hr Emergency: Poisons Information Centre
Phone: 131 126 (Australia Wide)

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients: Name | CAS | Proportion
--- | --- | ---
Phenol | 108-95-2 | 80%

3. HAZARDS IDENTIFICATION

Toxic in contact with skin and if swallowed.
Causes burns

4. FIRST AID MEASURES

Inhalation: Remove sources of contamination or move victim to fresh air. If breathing has stopped, properly trained personnel should begin artificial respiration or cardiopulmonary resuscitation (CPR) immediately. Obtain medical attention immediately.
Ingestion: Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing. Rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 1 to 3 cups of olive oil or other cooking oil or milk. Quickly transport victim to an emergency facility.
Skin: Avoid direct contact with this chemical. Wear impervious protective gloves, if necessary. As quickly as possible, flush contaminated area with lukewarm, gently running water. Under running water, remove contaminated clothing, shoes, and leather goods (eg watchbands, belts). Swab skin repeatedly with 10% PEG (Polyethylene Glycol Molecular weight 300 or 400), a mix of PEG-Methylated spirits (2:1 by volume, or if necessary, glycerine or methylated spirits alone. Obtain medical attention immediately.
Eye: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 10 minutes, by the clock, holding the eyelids open. Obtain medical attention immediately.
Advice to Doctor: Treat symptomatically as for phenolic compounds.
Other Information: Provide general supporting measures (comfort, warmth, rest) Consult a physician and/or the nearest Poisons Control Centre for all exposures except minor instances of inhalation or skin contact.
Ensure supply of Polyethylene Glycol molecular weight 300 or 400 is always on hand.
It is recommended that olive oil or other cooking oil or milk is readily available.
Safety shower and eye bath.
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5. FIRE FIGHTING MEASURES

Unusual Fire & Explosion Hazards: FIRE EXTINGUISHING AGENTS: Water, fog, carbon dioxide, dry chemical, alcohol foam
FIRE EXTINGUISHING PROCEDURES: Water can be used in the form of a spray or mist to absorb heat, keep containers cool and protect exposed material.
COMBUSTION PRODUCTS: Carbon monoxide (CO), carbon dioxide (CO2).
Fire fighters to wear full body protective clothing with breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal PRECAUTIONS: Restrict access to area. Provide adequate protective equipment and ventilation. Remove source of heat and flame.
CLEANUP: Stop or reduce discharge if it can be done safely. Contain material. Material should be recovered if possible or collected on absorbent materials such as vermiculite, dry sand or earth. Prevent entry into water or sewer systems.
DISPOSAL: Review federal, state and local regulations prior to disposal. Dispose of in a designated landfill site or burn in an approved incinerator.

7. HANDLING AND STORAGE

Precautions to be Take in Storage: STORAGE CONDITIONS: Store in tightly closed containers in a cool dry place separate from normal work area and incompatible materials. Protect from exposure to sunlight.
The storage area should have adequate, independent ventilation and no sources of heat or flame.
Containers should be covered when not in use. Use phenol resistant materials in storage and handling area.
HANDLING: Use in minimal quantities in designated areas with adequate ventilation. Keep away from sources of heat or flame. Whenever possible fire-resistant containers should be used. Wear appropriate protective equipment to prevent skin and eye contact. Avoid procedures which generate dust or mist.
Not to be loaded with Class 1, 2*, 3*, 5.1*, 5.2* 8*, Foodstuffs and foodstuffs empties (*where Class 3 substance is nitro methane, * where class 5.1 and 5.2 substances are capable of being ignited and burning and * where class 6 substance is a cyanide and class 8 is an acid)
Subsidiary risk.........8

9. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits: Name
Phenol

<table>
<thead>
<tr>
<th>Exposure Limits</th>
<th>STEL</th>
<th>TWA</th>
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<tr>
<td>Phenol</td>
<td>mg/m³ ppm</td>
<td>mg/m³ ppm</td>
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<td></td>
<td>4</td>
<td>1</td>
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Other Exposure Information: (TLV. TWA) 19mg/m³ - skin, Worksafe Aust.
EXPOSURE LIMIT COMMENTS 'SKIN' NOTATION: Contact with skin, eyes and mucous membranes can contribute to the overall exposure and may invalidate the TL. Consider measures to prevent absorption by these routes. BIOLOGICAL EXPOSURE INDICES (BEIs); The ACGIH has adopted a BEI for this chemical. BEIs provide an indication or worker exposure by measuring the chemical or its
breakdown products in the body or by measuring biochemical changes resulting from exposure to the chemical. Consult the BEI documentation for further information.

**SAMPLING & ANALYSIS DETECTOR TUBES:** Short-term sampling INFRARED ANALYSIS: Continuous monitoring SAMPLING PUMP WITH APPROPRIATE COLLECTING MEDIUM.

**EXPOSURE CONTROL NOTE:** Exposure to this material can be controlled in many ways. The measures appropriate for a given worksite depend on how this material is used and on the extent of exposure. Use this general information to help develop specific control measures. Ensure that control systems are properly designed and maintained. Comply with occupational, environmental, fire and other applicable regulations.

**Personal Protective Equipment:** RESPIRATORY PROTECTION: If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection. Have appropriate equipment available for use in emergencies such as spills or fire. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

**RESPIRATORY PROTECTIVE GUIDELINES-RECOMMENDATIONS FOR PHENOL:**

**CONCENTRATIONS IN AIR:**

- Up to 50ppm: Chemical cartridge respirator with organic vapour cartridge(s) and dust and mist filter(s) or SAR or SCBA. Up to 125ppm SAR operated in a continuous flow mode; or powered air purifying respirator with organic vapour cartridge(s) and dust and mist filter(s).
- Up to 250ppm: full face piece SCBA; or full face piece SAR; or full face piece chemical cartridge respirator with organic vapour cartridge(s) and high efficiency particulate filter(s); or gas mask with organic vapour canister and high efficiency particulate filter; or powered air-purifying respirator with a tight fitting face piece and organic vapour cartridge(s) and having a high efficiency particulate filter(s).

- **EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATION OR IDLH CONDITIONS:** Positive pressure, full face piece SCBA; or Positive pressure, full face piece SAR with an auxiliary positive pressure SCBA.

**ESCAPE:** Gas mask with organic vapour canister and high efficiency particulate filter; or escape type SCBA.

**NOTE:** The IDLH concentration for phenol is 250ppm. ABBREVIATIONS: SAR = supplied air respirator; SCBA = self contained breathing apparatus; IDLH = Immediately dangerous to Life and Health. In these recommendations, the IDLH concentration is defined as the maximum concentration which would not cause any escape-impairing symptoms or irreversible health affects to a person exposed for 30 minutes if the respirator failed. EYE FACE PROTECTION: Face shield (8" minimum) required.

**SKIN PROTECTION:** Impervious gloves, coveralls, apron, boots etc as required. RESIST FOR PROTECTIVE CLOTHING EXCELLENT- Neoprene GOOD-Butyl rubber, natural rubber, neoprene/natural rubber, polyethylene, chlorinated polyethylene FAIR/POOR- nitrile/polyvinyl chloride, polyurethane, nitrile rubber, polyvinyl alcohol, polyvinyl chloride, styrene/butadiene rubber/Yiton

**PERSONAL PROTECTION COMMENTS:** Eye wash fountains and safety showers should be located near any area where this compound is used. When protective clothing is required, clean changing facilities should be provided for storage of street clothes and separate storage for protective clothing and equipment. Work clothing should be changed daily. Contaminated clothing should be removed promptly and discarded or laundered separately before reuse. Do not smoke, eat, or drink in work area.

**Engineering controls:** ENGINEERING CONTROLS: Local exhaust ventilation is normally needed with large scale use or at elevated temperatures. General (dilution) ventilation may be adequate for small scale use at room temperature.

### 10. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Colourless to pink solid or thick liquid with a characteristic sweet tarty odour. ODOR THRESHOLD: 0.05 – 5 ppm WARNING property 9odour/irrit) Fair odour can be detected near or at the TLV
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Melting Point: 41-43 deg C (106-109 deg F)
Boiling Point: 182degC (360degF)
Specific Gravity: 1.07 (water=1)
(H2O=1)
pH Value: 6 (saturated aqueous solution)
Vapour pressure: 0.2mmHg at 29degC; 1mmHg at 40degC
Vapour density: 3.24 (air=1)
(Air=1)
Flash Point: 79deg (170degF) closed cup
Flammability: Combustible
Ignition Temperature: 713deg (1319degF)
Flammable Limits: No data
LEL
Explosion Data: LEL 3% (VEL) 10%
Molecular weight: 94.1

Other information:
CONVERSION FACTOR: 1PPM 3.02mg/m³ at 25degC and 760mmHg
SOLUBILITY IN WATER: 70g/l
SOLUBILITY IN OTHER LIQUIDS: Soluble in benzene; very soluble in ethanol;
chloroform; ether, glycerol; carbon disulphide; oils aqueous alkali; hydroxides miscible with acetone and
carbon tetrachloride

10. STABILITY AND REACTIVITY

Hazardous Reaction: STABILITY: Moderately stable, slowly turns pink or red when exposed to air or
light.
INCOMPATIBILITY: MATERIALS TO AVOID: STRONG OXIDISING AGENTS-increased risk of fire
and explosion. MIXTURE WITH ALUMINIUM CHLORIDE AND NITROBENZENE-may explode
HAZARDOUS DECOMPOSITION PRODUCTS: None
HAZARDOUS POLYMERIZATION: Does not occur
CORROSIVITY TO METALS: Insufficient data

11. TOXICOLOGICAL INFORMATION

Toxicology Information:
ANIMAL TOXICITY DATA LD50 (rat, oral) 300-650mg/kg LD30 (mouse, oral): 300mg/kg LD50 (rabbit, oral): 400-600mg/kg LD50 rat, dermal) 670mg (undiluted)/kg LD50
(rabbit/dermal); 830mg-1400mg/kg LD50 (rat/inhalation); 316mg/m³; duration of exposure: 4 hours. Irritant
dose (rabbit/eye) 3mg z9severe eye irritant) Irritant dose (rabbit/dermal):500mg; duration of exposure 24
hours severe skin irritant) Phenol has not caused cancer in animal studies using rats and mice.
Inhalation: Vapour and mist can irritate nose and throat; absorption can cause central nervous system
effects, nausea, dizziness, headache; possible liver and kidney damage from large exposures
Ingestion: Causes severe burns of the mouth and throat; can also cause abdominal pain, cyanosis muscular
weakness tremor and convulsions; kidney and liver damage; coma and death may also follow; lethal dose
can be as little as 1 gram.
Skin: Corrosive action on tissues; hazard increases with phenol concentration; aqueous solutions over 5%
can be corrosive and toxic. On skin, there is a local anaesthesia with a white decolourisation and gangrene
may develop. Vapour and liquid can be readily absorbed through the skin in toxic or lethal amounts; affects
include shock, collapse, coma, convulsion, and death (kidney and liver damage)
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Eye: Vapours are irritating to eyes. Concentrated solutions are severely irritating to eyes and can cause conjunctival swelling and clouding of the cornea; loss of vision can occur.

Chronic Effects: HEALTH EFFECTS SKIN: Chronic dermatitis, ochronosis (characteristic darkening of the skin and urine; muscular pains, weight loss, loss of appetite, and weakness may result from repeated or prolonged contact with phenol. Ingestion: Diarrhoea, burning of the mouth, mouth sores, and dark urine were seen in individuals who consumed phenol contaminated well water following a massive spill. Inhalation Chronic exposure to phenol may cause a characteristic darkening of the skin and urine, muscular pains, weight loss, loss of appetite and weakness. Carboluria (phenol in the urine) dermatitis and cold numb fingers were common among doctors and their and their assistants who use Lister's carbolic spray (5-10% phenol solution) as a disinfectant. Other symptoms were headache, vertigo, salivation, nausea, vomiting and diarrhoea and in some cases death. CARCINOGENICITY: Not carcinogenic in mice or rats. Not classed as a carcinogen by Worksafe Aust. TERATOGENICITY AND EMBRYOTOXICITY: Insufficient data MUTAGENICITY: Mutagenic in one of seven strains of bacteria tested. POTENTIAL FOR ACCUMULATION; None 90% of non toxic dose excreted within 24 hours.

12. ECOLOGICAL INFORMATION

Biodegradability: The products of degradation are less toxic than the product.

Aquatic Toxicity:
- Toxicity to fish: LC50
- Toxicity to daphnia: EC50

13. DISPOSAL CONSIDERATIONS

Waste must be disposed in accordance with federal, state and local environmental control regulations.

14. TRANSPORT INFORMATION

Identification: Phenol solution (Phenol) UNNA: 2821 PG: II

DOT Classification: Class 6.1: poisonous material

15. OTHER INFORMATION

Contact point: Beaumaris Pharmacy
1A East concourse
Beaumaris, 3193
(03) 9589 2676
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Poisons Schedule: S6

Empirical Formula & Structural Formula: Molecular Formula: C6-H6-O
Structural Formula: C6H5-OH
Chemical Family: Aromatic alcohol

Manufacturers Advice: Liquid Phenol, catalogue numbers 06016018 and 00005210 have UN No.2821

Bioassay of phenol for possible carcinogenicity, National Cancer Institute; carcinogenesis; technical report series no. 203, U.S. Department of health and Human Services, Public Health Service, National Institutes of Health 1950. NIOSH pocket guide to chemical hazards (Repr. With corr.) NIOSH Feb 1987 p 188-189