

3/06 AK

Material Safety Data Sheet



1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

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24-Hour Emergency Phone Number: 989-636-4400

Product: DOWICIDE* 1 ANTIMICROBIAL & PROPYLENE GLYCOL INDUSTRIAL MIX

Product Code: 24338

Effective Date: 08/09/04

Date Printed: 08/10/04

MSD: 000132

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

2. COMPOSITION/INFORMATION ON INGREDIENTS

o-Phenylphenol
Propylene glycol

CAS# 000090-43-7 63.0%
CAS# 000057-55-6 BALANCE

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

* Clear liquid. Phenolic odor. Causes eye irritation. Causes skin *
* burns. Toxic fumes are released in fire situations. *

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause moderate eye irritation which may be slow to heal.
May cause moderate corneal injury.

SKIN: Short single exposure may cause skin burns. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. O-Phenylphenol (OPP) has important structural differences from the substituted phenols which are known to cause depigmentation at use dilutions in disinfectants. OPP has been reported to produce depigmentation (white patches) on skin of experimental animals when given orally but not by skin contact, and in humans only at concentrations that were significantly irritating to the skin. OPP has not been found to cause depigmentation when present at low concentrations used in disinfectant formulations.

INGESTION: Single dose oral toxicity is considered to be low.

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Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

INHALATION: Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: For the major component: In animals, effects have been reported on the following organs: bladder, kidney and liver. For the minor component(s): Human signs and symptoms may include CNS depression (headache, dizziness, drowsiness, incoordination).

CANCER INFORMATION: Ortho phenylphenol has been shown to produce urinary bladder tumors in male rats and liver tumors in male mice fed exaggerated doses. Contains component(s) which did not cause cancer in laboratory animals. The component(s) is/are propylene glycol.

TERATOLOGY (BIRTH DEFECTS): Contains component(s) which did not cause birth defects or any other fetal effects in lab animals. The component(s) is/are propylene glycol. Contains component(s) which did not cause birth defects; other fetal effects occurred only at doses toxic to the mother. The component(s) is/are orthophenyl phenol.

REPRODUCTIVE EFFECTS: In animal studies, has been shown not to interfere with reproduction. (components tested separately.)

4. FIRST AID

EYE: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN: Wash off in flowing water or shower.

INGESTION: If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Consult medical personnel.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient. If burn is present, treat as any

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thermal burn, after decontamination. Persons receiving a significant exposure of this material by inhalation should be observed 24-48 hours for delayed pulmonary edema.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: 210F

METHOD USED: TCC

AUTOIGNITION TEMPERATURE: 371C

FLAMMABILITY LIMITS

LFL: unknown deg. C, 2.6%

UFL: unknown deg. C, 12.5%

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds.

EXTINGUISHING MEDIA: Water fog or fine spray. Carbon dioxide. Dry chemical. Foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Water fog, applied gently may be used as a blanket for fire extinguishment. Do not use direct water stream. Will spread fire.

MEDIA TO BE AVOIDED: Do not use direct water stream.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves).

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Use appropriate safety equipment. For additional information, refer to "Exposure Controls/Personal Protection", MSDS, Section 8.

PROTECT THE ENVIRONMENT: Avoid contamination of drinking water, natural water, ground water or any waterway.

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CLEANUP: Clean up with absorbent material. Contain liquid;
transfer to properly labeled closed metal containers.

7. HANDLING AND STORAGE

HANDLING: Refer to "Exposure Controls/Personal Protection",
Section 8, of the MSDS.

STORAGE: See "Reactivity & Stability", Section 10, of the MSDS.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide general and/or local exhaust
ventilation to control airborne levels below the exposure
guidelines.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION: Use protective clothing impervious to this
material. Selection of specific items such as faceshield,
gloves, boots, apron, or full body suit will depend on opera-
tion. Safety shower should be located in immediate work area.
Remove contaminated clothing immediately, wash skin area with
soap and water, and launder clothing before reuse. Items
which cannot be decontaminated, such as shoes, belts and
watchbands, should be removed and destroyed.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained
below the exposure guideline. When respiratory protection is
required for certain operations, use an approved air-purifying
respirator.

EXPOSURE GUIDELINES: o-Phenylphenol: Dow IHG is 1 mg/m3.
Propylene glycol: AIHA WEEL is 10 mg/m3 for total vapor and
aerosol.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Clear liquid.

ODOR: Phenolic.

VAPOR PRESSURE: 15 mmHg at 20C (solvent only)

VAPOR DENSITY: 2.6 (solvent only)

BOILING POINT: 390F, 199C (solvent only)

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SOLUBILITY IN WATER/MISCIBILITY: Slightly soluble
SPECIFIC GRAVITY OR DENSITY: 1.1

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Themally stable at typical use temperatures.

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition products depend on temperature, air supply and the presence of other materials.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The LD50 for skin absorption in rabbits is expected to be >5000 mg/kg.

INGESTION: The oral LD50 for rats is expected to be >2700 mg/kg.

MUTAGENICITY: In vitro mutagenicity studies were negative in some cases and positive in other cases. (o-phenylphenol). Animal mutagenicity studies were negative. (o-phenylphenol and propylene glycol).

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Based largely or completely on data for major component(s). Bioconcentration potential is low (BCF less than 100 or Log Pow less than 3). Potential for mobility in soil is high (Koc between 50 and 150).

DEGRADATION & PERSISTENCE: Based on information for propylene glycol. Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). Based on information for o-phenylphenol. Material is

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readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation reached in CO₂ Evolution Test (Modified Sturm Test, OECD Test No. 301 B) after 28 days: 88%.

ECOTOXICITY: Based on information for DOWICIDE* 1, material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in most sensitive species). Based on information for propylene glycol, material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 greater than 100 mg/L in most sensitive species).

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL: DO NOT DUMP INTO ANY SEWER, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred option is to contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. The preferred option in other jurisdictions is to contact the regulatory authority for this product for guidance.

As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Center at 800-258-2436 or 989-832-1556 for further details.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.): For DOT regulatory information, if required, consult transportation regulations, product shipping papers or contact your Dow representative.

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

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NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

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SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
2-PHENYLPHENOL	000090-43-7	62.5 %

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986:

WARNING: This product contains a chemical known to the State of California to cause cancer.

STATE RIGHT-TO-KNOW: The following product components are cited on

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REGULATORY INFORMATION (CONTINUED)

certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
2-PHENYLPHENOL	000090-43-7	NJ1 NJ3 PA1 PA3

NJ1=New Jersey Special Health Hazard Substance (present at greater than or equal to 0.1%).

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).

PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

16. OTHER INFORMATION

MSDS STATUS: Revised Section 8, Exposure Guideline.

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The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult The Dow Chemical Company For Further Information.