

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

PROPIMAX EC FUNGICIDE

Effective Date: 9-2-04
Product Code: 87848
MSDS: 007121

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Propimax* EC Fungicide

COMPANY IDENTIFICATION:

Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268-1189

NOTE TO PHYSICIAN: The decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

2. COMPOSITION/INFORMATION ON INGREDIENTS:

Propiconazole:	CAS # 060207-90-1	41.8%
1-((2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl)-methyl)-1H-1,2,4-triazole		
Balance, Total, Including		58.2%
Propylene Glycol	CAS # 000057-55-6	
Aromatic Solvent	CAS # 064742-94-5	
Contains Naphthalene	CAS # 000091-20-3	

5. FIRE FIGHTING MEASURES:

FLASH POINT: 151.7°F (66.5°C)

FLAMMABLE LIMITS

LFL: Not determined
UFL: Not determined

EXTINGUISHING MEDIA: Water fog or fine spray, foam, CO₂, or dry chemical

3. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Clear yellow liquid with an aromatic odor. May cause eye irritation and/or corneal injury. May cause skin irritation. Toxic to aquatic organisms.

EMERGENCY PHONE NUMBER: 800-992-5994

FIRE AND EXPLOSION HAZARDS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Keep containers cool by spraying with water. Contain runoff to prevent entry into water or drainage systems.

FIRE-FIGHTING EQUIPMENT: Use positive-pressure, self-contained breathing apparatus and full protective equipment.

4. FIRST AID:

EYE: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

SKIN: Wash skin with plenty of water.

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

INHALATION: Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Absorb small spills with material such as sand, sawdust, Zorbball, dirt or other non-combustible absorbent material and place into containers for disposal. Wash exposed body areas thoroughly after handling. Barricade the area of large spills and report them to Dow AgroSciences at 800-992-5994.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Handling: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle concentrate in ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco, using toilet or smoking.

Storage: Product should be stored in compliance with local regulations. Store in a cool, dry, well-ventilated place in the original container. Protect from excessive heat and cold. Keep away from food, feedstuffs, and water supplies.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES:

Naphthalene: ACGIH TLV is 10 ppm TWA, 15 ppm STEL, Skin, A4. OSHA PEL is 10 ppm TWA.

Propylene glycol: AIHA WEEL is 10 mg/M³ for total vapor and aerosol.

A 'skin' notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

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

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use chemical goggles. If exposure causes eye discomfort, use a NIOSH approved full-face respirator.

SKIN PROTECTION: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur.

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

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Clear yellow liquid

ODOR: Aromatic

DENSITY: 1.0441 g/mL @ 20°C

VISCOSITY: 10.9 mPa-s @ 25°C 5.74 mPa-s @ 45°C

pH: 5.36 @ 23.1°C

10. STABILITY AND REACTIVITY:

STABILITY: (conditions to avoid) Stable under normal storage conditions. Avoid high temperatures (at or near flash point), open flame, sparks and direct sunlight.

INCOMPATIBILITY: (specific materials to avoid) Strong bases, acids, or oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Not determined.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause slight eye irritation and/or slight corneal injury. Vapor may cause eye irritation experienced as mild discomfort and redness. For the solvent, cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.

SKIN: Prolonged or repeated contact may cause skin irritation. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The dermal LD₅₀ has not been determined. Propiconazole did not cause allergic skin reactions when tested in guinea pigs.

INGESTION: Low toxicity if swallowed. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Aspiration into the lungs may occur during ingestion or vomiting causing lung damage or even death due to chemical pneumonia. Single dose oral LD₅₀ has not been determined.

INHALATION: Excessive exposure may cause irritation to upper respiratory tract (nose and throat). May cause central nervous system effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: May cause respiratory irritation and central nervous system depression.

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CANCER INFORMATION: Aromatic 150 contains naphthalene, which has caused cancer in some laboratory animals. An increase in lung tumors was observed in female, but not male, mice exposed to naphthalene by inhalation for two years. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

TERATOLOGY (BIRTH DEFECTS): Birth defects are unlikely. Exposures having no effects on the mother should have no effect on the fetus.

REPRODUCTIVE EFFECTS: Available data are inadequate to determine effects on reproduction.

MUTAGENICITY: For some of the components, in-vitro genetic toxicity studies were negative in some cases and positive in other cases.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL DATA:

MOVEMENT & PARTITIONING:

Based largely or completely on information for Aromatic 150.

Bioconcentration potential is high (BCF is >3000 or Log Pow is between 5 and 7).

Based largely or completely on information for propiconazole.

Bioconcentration potential is moderate (BCF is between 100 and 3000 or Log Pow is between 3 and 5).

Expected to be relatively immobile in soil (Koc is >5000 mg/kg).

DEGRADATION & PERSISTENCE:

Based largely or completely on information for Aromatic 150.

Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Based largely or completely on information for propiconazole.

Degradation is expected in the soil environment within months to years.

ECOTOXICOLOGY:

Based largely or completely on information for propiconazole.

Material is highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 0.1 and 1 mg/L in most sensitive species).

Based largely or completely on information for Aromatic 150.

Material is slightly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 10 and 100 mg/L in most sensitive species).

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

For non-bulk shipments by all modes of transportation:
This material is not regulated for transport.

For bulk shipments by land, rail & vessel:
COMBUSTIBLE LIQUID, N.O.S./(CONTAINS NAPHTHALENE)/COMBUSTIBLE LIQUID/NA1993/ PG III/RQ(NAPHTHALENE)

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15. REGULATORY INFORMATION:

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.

U.S. REGULATIONS

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
Propiconazole	060207-90-1	41.8%
Naphthalene	000091-20-3	4.3%

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: This product contains a chemical(s) known to the State of California to cause cancer. During processing of our product, exposure may exceed the levels deemed to represent significant risk as defined by the emergency guidelines in 22 California Code of Regulations, Division 2, Chapter 3, Article 7. The chemical is naphthalene (CAS # 000091-20-3)

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
Propylene Glycol	000057-55-6	PA1
Propiconazole	060207-90-1	NJ2
Naphthalene	000091-20-3	PA1 PA3 NJ2 NJ3

NJ2=New Jersey Environmental Hazardous Substance (present at greater than or equal to 1.0%).

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.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA, which may require reporting of releases:

Chemical Name	CAS#	RQ	% in Product
Naphthalene	000091-20-3	100 lb.	4.3%

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	2
Flammability	2
Reactivity	0

16. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 3,4,8,11,13,14,15
Reference: DR-0365-8820
Replaces MSDS Dated: 3/22/01
Document Code: D03-142-002
Replaces Document Code: D03-142-001

The Information Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult Dow AgroSciences for Further Information.