

MATERIAL SAFETY DATA SHEET



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

QUINTEC* FUNGICIDE

Effective Date: 8-11-04
Product Code: 19344
MSDS: 007615

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Quintec*Fungicide

COMPANY IDENTIFICATION:

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

2. COMPOSITION/INFORMATION ON INGREDIENTS:

Quinoxyfen: (5,7-Dichloro-4-(4-fluorophenoxy)quinoline	CAS # 124495-18-7	22.6%
Balance, Total, Including		77.4%
Propylene Glycol (1,2-Propanediol)	CAS # 000057-55-6	

3. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Tan liquid with a musty odor.
Material is toxic to aquatic organisms.

EMERGENCY PHONE NUMBER: 800-992-5994

4. FIRST AID:

EYE: Flush eyes thoroughly with water for several minutes. Remove contact lenses after 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: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air; if effects occur, consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: >199°F (>93°C)
METHOD USED: SCC

FLAMMABLE LIMITS:

LFL: Not determined
UFL: Not determined

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, or foam.

FIRE-FIGHTING INSTRUCTIONS: Keep containers cool by spraying with water. Contain runoff to prevent entry into water or drainage systems.

PROTECTIVE EQUIPMENT FOR FIREFIGHTERS: Wear protective clothing and use self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES:

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PERSONAL PRECAUTIONS: Wear appropriate safety clothing and eye/face protection. (See Section 8)

ENVIRONMENTAL PRECAUTIONS: Do not wash into sewers or into any body of water.

METHODS OF CLEANUP: Soak up small spills with sand or other non-combustible absorbent material and place into containers for disposal. For large spills, barricade area and call Dow AgroSciences at 800-992-5994.

7. HANDLING AND STORAGE:

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HANDLING: Use good personal hygiene. Do not consume or store food in the work area. Wash hands and exposed skin before eating, drinking or smoking and after work.

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STORAGE: Product should be stored in compliance with local regulations. Store in a cool, dry, well-ventilated area in the original container. Protect from excessive heat and cold. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilizers. Keep out of reach of children.

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:

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

Quinoxifen: Dow AgroSciences Industrial Hygiene Guide is 5 mg/M³, D-SEN.

A D-SEN notation following the exposure guideline refers to the potential to produce dermal sensitization, as confirmed by human or animal data.

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:

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

SKIN PROTECTION: No precautions other than clean body-covering clothing should be needed.

EYE/FACE PROTECTION: Use safety glasses.

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

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Tan liquid

ODOR: Musty

DENSITY: 1.11 @ 21C

pH: 8.34

WATER SOLUBILITY: Suspends

VISCOSITY: 130 mPa.s

10. STABILITY AND REACTIVITY:

CHEMICAL STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY WITH OTHER MATERIALS: Strong basic, acidic or oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: None under normal conditions of storage and use.

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: Essentially non-irritating to eyes.

SKIN: Essentially non-irritating to the skin. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The LD₅₀ for skin absorption in rats is >2000 mg/kg. 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. The oral LD₅₀ for rats is >2000 mg/kg.

INHALATION: At room temperature, exposure to vapor is minimal due to low volatility. No adverse effects are anticipated from single exposure to vapor. For the active ingredient quinoxifen, the LC₅₀ for rats is >3.38 mg/L for 4 hours.

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SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:

Quinoxifen, in animals, has been shown to cause kidney, liver and blood effects.

CANCER INFORMATION: Quinoxifen did not cause cancer in laboratory animals.

TERATOLOGY (BIRTH DEFECTS): For quinoxifen, birth defects are unlikely. Even exposures having an adverse effect on the mother should have no effect on the fetus.

REPRODUCTIVE EFFECTS: Quinoxifen, in animal studies, did not interfere with reproduction.

MUTAGENICITY: For quinoxifen, in-vitro genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT AND PARTITIONING:

Based largely or completely on information for quinoxifen. Bioconcentration potential is high (BCF is >3000 or Low Pow between 5 and 7). Bioconcentration factor (BCF) in fish is 5040. Expected to be relatively immobile in soil (Koc is >5000).

DEGRADATION & PERSISTENCE:

Based largely or completely on information for quinoxifen. 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. Biodegradation reached in CO₂ Evolution Test (Modified Sturm Test, OECD Test No. 301B) after 28 days: 2-3%. The hydrolysis half-life is 1 week. The photolysis half-life in water is 3.2 days. Under aerobic soil conditions the half-life is 7-17 months. Under anaerobic soil conditions the half-life is 9.5 months. Under aerobic aquatic conditions the half-life is 3-7 days.

ECOTOXICOLOGY:

Based largely or completely on information for quinoxifen. Material is highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 0.1 and 1 mg/L in the most sensitive species tested). Acute LC₅₀ in rainbow trout (*Oncorhynchus mykiss*) is >100 mg/L. Acute immobilization EC₅₀ in water flea (*Daphnia magna*) is 0.2 mg/L. Material is practically non-toxic to birds on a dietary basis (LC₅₀ is >5000 ppm). Material is practically non-toxic to birds on an acute basis (LD₅₀ is >2000 mg/kg). Based largely or completely on information for this formulation. Growth inhibition EC₅₀ for alga (*Scenedesmus sp.*) is 0.28 mg/L. The LC₅₀ in earthworm (*Eisenia foetida*) is >1000 ppm.

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 all package sizes shipped by all modes of transportation:
This material is not regulated for transport.

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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: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

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:

A delayed health hazard

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
1,2-Propanediol	000057-55-6	PA1

PA1=Pennsylvania 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.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	1
Flammability	1
Reactivity	0

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

16. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 3, 8, 11 & 13
Reference: DR-0350-6681
Replaces MSDS Dated: 4/25/03
Document Code: D03-136-002
Replaces Document code: D03-136-001

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