

MATERIAL SAFETY DATA SHEET



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

QUINTEC* FUNGICIDE

Effective Date: 24-Mar-08
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. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Off-white odorless liquid. Material is toxic to aquatic organisms.

EMERGENCY PHONE NUMBER: 800-992-5994

3. COMPOSITION/INFORMATION ON INGREDIENTS:

Component	CAS Number	W/W%
Quinoxifen: (5,7-Dichloro-4-(4-fluorophenoxy)quinoline	124495-18-7	23.1
Propylene Glycol	57-55-6	6.7
Balance		70.2

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: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

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. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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 combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: nitrogen oxides, fluorine, chlorine, carbon monoxide, and carbon dioxide.

EXTINGUISHING MEDIA: Water fog or fine spray, carbon dioxide, dry chemical, or foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.

FIRE-FIGHTING INSTRUCTIONS: Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Review the "Accidental Release Measures" and the "Ecological Information sections of this (M)SDS.

PROTECTIVE EQUIPMENT FOR FIREFIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Large spills: Dike area to contain spill. See Section 13, Disposal Considerations, for additional information. Report large spills to Dow AgroSciences at 800-992-5994.

PERSONAL PRECAUTIONS: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

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ENVIRONMENTAL PRECAUTIONS: Prevent from entering into soil, ditches, sewers, waterways, and/or groundwater. See Section 12, Ecological Information.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Store in a dry place, 0-30C. Use only with adequate ventilation. Protect from heat. Store in original container.

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 an approved air-purifying respirator. The following should be effective types of air-purifying respirators: organic vapor cartridge with a particulate pre-filter.

HAND PROTECTION: Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.

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: Off-white

ODOR: Odorless

DENSITY: 1.11 @ 21C

pH: 8.0

WATER SOLUBILITY: Suspends

VISCOSITY: 130 mPa.s

10. STABILITY AND REACTIVITY:

CHEMICAL STABILITY: Stable under recommended storage conditions. See Storage, Section 7.

CONDITIONS TO AVOID: Active ingredient decomposes at elevated temperatures.

INCOMPATIBILITY WITH OTHER MATERIALS: Strong bases, acids or oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS:

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include, but are not limited to: chlorine, carbon monoxide, carbon dioxide, and nitrogen oxides.

HAZARDOUS POLYMERIZATION: Will not 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: Brief contact is 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.

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INHALATION: No adverse effects are anticipated from single exposure to mist. For the active ingredient quinoxyfen, the LC₅₀ for rats is >3.38 mg/L for 4 hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: For quinoxyfen, in animals, effects have been reported on the following organs: kidney, liver, and blood.

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

TERATOLOGY (BIRTH DEFECTS): Quinoxyfen and the major component(s) did not cause birth defects or any other fetal effects in laboratory animals.

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

MUTAGENICITY: For quinoxyfen and the major component(s), in-vitro and animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT AND PARTITIONING:

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

Based largely or completely on information for propylene glycol.

Bioconcentration potential is low (BCF is <100 or log Pow is <3).
Potential for mobility in soil is very high (Koc between 0 and 50).

DEGRADATION & PERSISTENCE:

Based largely or completely on information for quinoxyfen.

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.

Based largely or completely on information for propylene glycol.

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

ECOTOXICOLOGY:

Based largely or completely on information for quinoxyfen.

Material is very highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is <0.1 mg/L in the most sensitive species tested).

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 propylene glycol.

Material is practically non-toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is >100 mg/L in the most sensitive species tested).

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13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: Do not dump into any sewers, on the ground, or into any body of water. For unused and uncontaminated product, the preferred options include sending to a licensed, permitted: reclaimer or incinerator or other thermal destruction device.

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:

DOT Non-Bulk
NOT REGULATED

DOT Bulk
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S
Technical Name: CONTAINS QUINOXYFEN
Hazard Class: 9 **ID Number:** UN3082
Packing Group: PG III

IMDG
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S
Technical Name: CONTAINS QUINOXYFEN
Hazard Class: 9 **ID Number:** UN3082
Packing Group: PG III
EMS Number: F-A,S-F
Marine Pollutant: Yes

ICAO/IATA
NOT REGULATED

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
Propylene Glycol	57-55-6	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.

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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: 2, 3, 4, 5, 6, 7, 8, 9, 10
11, 12, 13, 14 & 15
Reference: DR-0350-6681 & TIME*8907
Document Code: D03-136-003
Replaces Document Code: D03-136-002
Replaces MSDS Dated: 11-Aug-04

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