

MATERIAL SAFETY DATA SHEET



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

STRONGARM* HERBICIDE

Effective Date: 3/22/00
Product Code: 55508
MSDS: 005833

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Strongarm* Herbicide

COMPANY IDENTIFICATION:

Dow AgroSciences
9330 Zionsville Road
Indianapolis, IN 46268-1189

2. COMPOSITION/INFORMATION ON INGREDIENTS:

Diclosulam Technical: n-(2,6-dichlorophenyl)-5-ethoxy-7-fluoro-(1,2,4)-triazolo-(1,5-c)-pyrimidine-2-sulfonamide (DE-564)

Other Proprietary Ingredients, Total: 16%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

3. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Hazardous Chemical. Brown granule. May cause pain and eye irritation. Single exposure may cause skin irritation. LD₅₀ for skin absorption in rabbits is >2000 mg/kg. Oral LD₅₀ for rats is >5000 mg/kg. Inhalation LC₅₀ for rats is >6.7 mg/L. Slightly toxic to aquatic organisms.

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

EYES: May cause pain and moderate eye irritation.

SKIN: The LD₅₀ for skin absorption in rabbits is >2000 mg/kg. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Short single exposure may cause moderate skin irritation.

INGESTION: The oral LD₅₀ for rats is >5000 mg/kg. Single dose oral toxicity is extremely low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

INHALATION: The LC₅₀ for rats is >6.7 mg/L. Single exposure to dust is not likely to be hazardous. Vapors are unlikely due to physical properties.

SYSTEMIC (OTHER TARGET ORGANS) EFFECTS: Repeated excessive exposures to high amounts may cause kidney and liver effects.

CANCER INFORMATION: No relevant information found.

TERATOLOGY (BIRTH DEFECTS): No relevant information found.

REPRODUCTIVE EFFECTS: For diclosulam, in animal studies, has been shown not to interfere with reproduction.

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, seek medical attention. Do not induce vomiting unless directed to do so by 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.

5. FIRE FIGHTING MEASURES:

FLASH POINT: Not determined (expected to be >200°F based on components)

FLAMMABLE LIMITS: LFL: Not determined
UFL: Not determined

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EXTINGUISHING MEDIA: Water fog, foam, CO₂, or dry chemical.

FIRE AND EXPLOSION HAZARDS: Fire and explosion potential not determined but expected to be low.

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

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: Sweep up spilled product and place into suitable containers for disposal. Report large spills 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 and pets. Avoid skin and eye contact. Wash thoroughly after handling. Storage: Store in original container in a dry area.

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: Diclosulam: Dow AgroSciences Industrial Hygiene Guideline is 3 mg/M³ TWA.

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION: Use gloves impervious to this material and wear clean body-covering.

RESPIRATORY PROTECTION: In dusty atmospheres, use a NIOSH approved dust respirator.

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

9. PHYSICAL AND CHEMICAL PROPERTIES:

MELTING POINT: Not determined
SOLUBILITY IN WATER: Disperses in water
pH: 5.0 - 8.0 (10% mixture in water)
VAPOR PRESSURE: Not determined
BULK DENSITY: 35-60 lbs/ft³
APPEARANCE: Brown Granule
ODOR: No distinctive odor

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Stable at normal temperatures and storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) None reasonably foreseeable.

HAZARDOUS DECOMPOSITION PRODUCTS: If product is involved in a fire, oxides of nitrogen, oxides of sulfur, and halogen derivatives may be formed.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

MUTAGENICITY: For diclosulam, in-vitro and animal mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING:

Based largely or completely on information for diclosulam. Bioconcentration potential is low (BCF <100 or Log Pow <3).

ECOTOXICOLOGY:

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

Growth inhibition EC₅₀ for green alga (*Selenastrum capricornutum*) is 3.01 µg/L.

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13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: Do not contaminate food, feed, or water by storage or disposal. Excess wastes are toxic. Improper disposal of excess wastes are a violation of federal law. If these wastes cannot be disposed by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

14. TRANSPORT INFORMATION:

For DOT regulatory information, if required, consult transportation regulations, product shipping papers, or consult your Dow AgroSciences representative.

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:

An immediate health hazard
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 |
|------------------------|-------------|------|
| Proprietary Ingredient | Proprietary | PA1 |

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

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
Reference: DR-0342-6720
Replaces MSDS dated: 11/17/99
Document Code: D03-044-003
Replaces Document Code: D03-044-002

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