

MATERIAL SAFETY DATA SHEET



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

ENTRUST* NATURALYTE* INSECT CONTROL

Effective Date: 6-Jun-07
Product Code: 73307
MSDS: 007516

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Entrust* Naturalyte* Insect Control

COMPANY IDENTIFICATION:

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

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

White to off-white solid powder with a latex odor. May cause eye and skin irritation. Toxic to marine molluscs, fish, and aquatic invertebrates.

EMERGENCY PHONE NUMBER: 800-992-5994

3. COMPOSITION/INFORMATION ON INGREDIENTS:

Component	CAS Number	W/W%
Spinosad A	131929-60-7	80.0
Spinosad D	131929-63-0	
Porcelain clay	1332-58-7	3.4
Balance		16.6

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: No emergency medical treatment necessary.

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: Not applicable

METHOD USED: Not applicable

FLAMMABLE LIMITS

LFL: Not applicable

UFL: Not applicable

EXTINGUISHING MEDIA: Foam, CO₂, or Dry chemical

FIRE AND EXPLOSION HAZARDS: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions.

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

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Sweep up small spills and place in a container suitable for disposal. Report large spills to Dow AgroSciences on 800-992-5994.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing dust. Handle in a ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco, using the toilet or smoking. Keep away from food, feedstuffs, and water supplies. Store in original container in a dry area.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

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

EXPOSURE GUIDELINES:

Spinosad: Dow AgroSciences Industrial Hygiene Guideline is 0.3 mg/M³ TWA.

Porcelain clay: ACGIH TLV is 2 mg/M³, A4. OSHA PEL is 5 mg/M³ (respirable) and 15 mg/M³ (total dust).

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 safety glasses. If there is a potential for exposure to particles, which could cause eye discomfort, wear chemical goggles.

SKIN PROTECTION: Wear clean, body-covering clothing.

HAND PROTECTION: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Neoprene, Nitrile, and Polyvinyl Chloride (PVC or Vinyl). NOTICE: the selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: particulate filter.

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

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: White to off-white solid powder

BULK DENSITY: 0.23 g/cc

ODOR: Latex

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Stable under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) None known.

HAZARDOUS DECOMPOSITION PRODUCTS: If product is involved in fire, carbon monoxide and carbon dioxide, the normal products of combustion, will be formed, along with unidentified organic compounds.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

EYE: May cause slight eye irritation. May cause pain disproportionate to the level of irritation to eye tissues. Corneal injury is unlikely. Dust may irritate eyes.

SKIN: Prolonged contact may cause slight skin irritation with local redness. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The major component did not cause allergic skin reactions when tested in guinea pigs. The LD₅₀ for skin absorption in rabbits is >2,000 mg/kg.

INGESTION: Very low toxicity if swallowed. Harmful effects are not anticipated from swallowing small amounts. For the major component, the oral LD₅₀ for rats is >5,000 mg/kg.

INHALATION: Vapors are unlikely due to physical properties. Harmful effects not anticipated from swallowing small amounts. For the major component, the LC₅₀ for rats is >5.18 mg/L for 4 hours.

SYSTEMIC (OTHER TARGET ORGANS) EFFECTS: In animals, spinosad has been shown to cause vacuolation of cells in various tissues. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

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

TERATOLOGY (BIRTH DEFECTS): Spinosad did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

REPRODUCTIVE EFFECTS: For spinosad, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

MUTAGENICITY: For spinosad, in-vitro and animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING:

Bioconcentration potential is low (BCF <100 or Log Pow <3).
Based largely or completely on information for Spinosyn A.
Bioconcentration factor (BCF) in fish is 19.
Based largely or completely on information for Spinosyn D.
Bioconcentration factor (BCF) in fish is 33.

DEGRADATION & PERSISTENCE:

Based largely or completely on information for Spinosyn A.
The photolysis half-life in soil is 8.68 days.
The photolysis half-life in pH 7 buffer is 0.96 days.
Under aerobic soil conditions the half-life is 9.4 and 17.3 days.
Based largely or completely on information for Spinosyn D.
The photolysis half-life in soil is 9.44 days.
The photolysis half-life in pH 7 buffer is 0.84 days.
Under aerobic soil conditions the half-life is 14.5 days.
Biodegradation reached in CO₂ Evolution Test (Modified Sturm Test, OECD Test No. 301B) after 28 days: 1%.
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.

ECOTOXICOLOGY:

Based largely or completely on information for Spinosad. Material is highly toxic in marine molluscs on an acute basis (LC₅₀ or EC₅₀ is between 0.1 and 1.0 mg/L in most sensitive species).
Material is moderately toxic to fish on an acute basis (LC₅₀ is between 1 and 10 mg/L).
Material is slightly toxic to fish on an acute basis (LC₅₀ is between 10 and 100 mg/L).
Material is slightly toxic to aquatic invertebrates on an acute basis (LC₅₀ or EC₅₀ is between 10 and 100 mg/L).
Material is practically non-toxic to birds on an acute basis (LD₅₀ is >2,000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC₅₀ is >5,000 ppm).
Acute contact LD₅₀ in honeybee (*Apis mellifera*) is 0.05 µg/bee.
Acute oral LD₅₀ in honeybee (*Apis mellifera*) is 0.06 µg/bee.

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 INFORMATION:

For all package sizes and 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 Section 311 and 312 of the Superfund Amendments 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.

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

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of:

New Jersey
Pennsylvania

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.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	1
Flammability	0
Reactivity	0

16. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 2, 8, 11, 12, 15
Reference: DR-0379-9108
Replaces MSDS Dated: 8-Mar-06
Document Code: D03-184-004
Replaces Document Code: D03-184-003

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

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