Material Safety Data Sheet

Entrust* 80 W Naturalyte* Insect Control Product

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In case of emergency call CANUTEC at 613 996 6666

1. Product Identification:
Product name: Entrust* 80 W Naturalyte* Insect Control Product
Product use: A Naturalyte insect control product formulated for the organic grower.
Product code number: 73307
GMID numbers: 263427
MSDS number: DASCI-237
Effective date: April 4, 2007

2. Composition:
Component CAS Number % (w/w)
Spinosad: Spinosyn A 131929-60-7 80.0
Plus: Spinosyn D 131929-63-0
Other ingredients 20.0
Including:
Kaolinite 001332-56-7
Crystalline silica¹ 014808-60-7 >1.0²
¹Contained in Kaolinite
²As a percent of the total formulation

3. Hazard Identification:
Emergency Overview:
This product is a white to off-white powder with a latex-type odor. Contact may cause eye and skin irritation.

Potential Health Effects:
Eyes: This product may cause slight eye irritation and pain. This pain may be disproportionate to the level of irritation to eye tissues. Corneal injury is unlikely. Dust may irritate the eyes.

Skin contact: Prolonged contact may cause slight skin irritation with local redness.

Skin absorption: Prolonged skin contact is unlikely to result in absorption of this product in harmful amounts.

Ingestion: Harmful effects are not anticipated from swallowing small amounts of this product.

Inhalation: Vapors are unlikely due to physical properties of this product. Dust may cause irritation of the upper respiratory tract (nose and throat) and lungs.

4. First Aid Measures:
Consult a physician in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention at once.

Eyes: Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial one to two minutes and continue flushing for several additional minutes. Get specialist medical attention at once if effects occur.

Skin: Wash skin with plenty of water.

Ingestion: No remedial emergency medical treatment is necessary.

Inhalation: If breathing difficulty occurs, remove the individual to fresh air. Get medical attention if breathing difficulty persists.

Have the Material Safety Data Sheet, and if available, the product container or label with you when calling for medical assistance.

Note to physician:
There is no specific antidote. Employ supportive care. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire-fighting Measures:
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Flash point: Not applicable.
Flammable limits: Not applicable
Auto-ignition temperature: Not available
Extinguishing media: CO2, dry chemical, or foam
Sensitivity to mechanical impact/static discharge: Not available
Unusual fire and explosion hazards: Foam fire extinguishing systems are preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions. If water is used to fight the fire, it must be contained and collected for future disposal.
Fire-fighting equipment: Wear full turnout gear and use positive-pressure self-contained breathing apparatus where inhalation hazards exist.

6. Accidental Release Measures:
If spill occurs out-of-doors, cover it with any material available to prevent any rain or wind damage until recovery can begin. Sweep up small spills and store collected material in secure containers until safe disposal can be arranged. Do not vacuum up spilled material as the dust created may form an explosive mixture when mixed with air. Avoid the use of water for cleanup, since spent water must be collected and treated as hazardous waste. Use hot water and heavy duty detergent to clean up any residual stains on hard surfaces. Remainders of small spills on topsoil should be worked into the soil and allowed to degrade under natural conditions (see 13. Ecological Information – Degradation and Metabolism – Soil). Do not allow spilled material to contaminate water supplies. For large spills, dike and barricade the affected area and contact CANUTEC at 613 996 6666 and local authorities.

7. Handling and Storage:
Handling: Keep out of reach of children. Do not swallow this product. Avoid contact with eyes, skin, and clothing. Avoid breathing dust of this product. Handle this product only in a ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco, using the toilet or smoking.

Storage: Store in original containers only. Do not ship or store this product with foodstuffs, feed, seed, drugs or clothing.

8. Exposure Controls, Personal Protection and Exposure Limits:
Exposure limits:
Spinosad: Dow AgroSciences Industrial Hygiene Guide is 0.3 mg/m³, TWA.
Kaolinite clay: Not available
Silica, crystalline (contained in Kaolinite clay): ACGIH TLV is 0.1 mg/m³ (respirable) for tripoli, and fused silica, 0.05 mg/ m³ (respirable) for cristobalite, tridymite, and quartz. Quartz has an A2 designation. OSHA PEL is (30 mg/m³)/(%SiO2 + 2) total dust, (250 mppcf)/(%SiO2 + 5) or (10 mg/ m³)/(%SiO2) respirable for quartz, tripoli, and fused silica; the value for cristobalite and tridymite is ½ the value calculated from the respirable dust formula for quartz.

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

Breathing: Atmospheric levels should be maintained below the exposure guidelines. If respiratory irritation is experienced, use a NIOSH approved air-purifying respirator.

Protective clothing: For brief contact during manufacture, warehousing and transport, wear clean body-covering clothing. Applicators and other field handlers, including persons repairing or cleaning application equipment, must wear coveralls over clean body-covering clothing, impervious gloves and boots. In addition, persons making and/or transferring field dilutions of this product must wear an impervious apron.

Eyes: Use safety glasses. If there is a potential for exposure to dust or spray particles which could cause eye discomfort, wear chemical workers’ goggles.

Other protection: None stated

9. Physical and Chemical Properties:
Boiling point: Not available
Vapor pressure: Not available
Volatility: Not available
pH: Not available

Dow AgroSciences Canada Inc. - Information Phone 800 667 3852
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| Appearance: White to off-white to solid powder |
| Odor: Latex - like |
| Coefficient of water/oil distribution: Not available |
| Bulk density: 230 kg/m³ |
| Evaporation rate: Not applicable |
| Solubility in water: Not available |
| Melting point: Not available |
| Odor threshold: Not available |

10. Stability and Reactivity:
   **Stability:** This product is stable under normal storage conditions.
   **Incompatibility:** None known
   **Hazardous decomposition products:** If this 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:
   **Skin absorption:** Acute dermal LD50 (rabbit) is >2000 mg/kg.
   **Ingestion:** Acute oral LD50 (rat) is >5000 mg/kg.
   **Inhalation:** The greatest concentration of spinosad in the test (5.18 mg/L for four hours) produced no ill effects in the test animals.
   **Sensitization:** Spinosad did not cause allergic skin reactions when tested in guinea pigs.
   **Chronic effects:** In animals, spinosad has been shown to cause changes in structure of cells in various tissues. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use. Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs. Some evidence suggests that kidney effects may result from excessive exposure to this product.
   **Cancer:** Crystalline silica has been shown to cause cancer in laboratory animals and humans. Crystalline silica is listed as a carcinogen for hazard communication purposes under OSHA and NTP definition.
   **Birth defects:** Based on information for spinosad, birth defects are unlikely. Even exposures having an adverse effect on the mother should have no effect on the fetus.
   **Reproductive effects:** In laboratory animal studies with spinosad, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
   **Mutagenicity:** For spinosad, in-vitro and animal mutagenicity studies were negative.

12. Ecological Information:
   **Aquatic toxicity:**
   Spinosad is highly toxic in marine mollusks on an acute basis (LC50 or EC50 is between 0.1 and 1.0 mg/L in most sensitive species).
   Spinosad is moderately toxic to fish on an acute basis (LC50 is between 1 and 10 mg/L).
   Spinosad is slightly toxic to aquatic invertebrates on an acute basis (LC50 or EC50 is between 10 and 100 mg/L).
   **Avian toxicity:**
   Spinosad is practically non-toxic to birds on an acute basis (LD50 is >2000 mg/kg).
   Spinosad is practically non-toxic to birds on a dietary basis (LC50 is >5000 ppm).
   **Bee toxicity:**
   Spinosad is highly toxic to honeybee. Acute contact LD50 in honeybee is 0.05 µg/bee; Acute oral LD50 in honeybee is 0.06 µg/bee.
   Bio-concentration potential for spinosad is low (BCF <100 or Log Pow <3).
   **Degradation and Metabolism:**
   **In soil:** Ultra-violet light and soil microbes rapidly degrade spinosad to naturally occurring substances. Based largely or completely on information for Spinosyn A, the photolysis half-life in soil is 8.68 days. The photolysis half-life in a 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 was 1%.
   **In plants:** On plant surfaces, half-life of spinosad is 1.6 to 16 days; degradation is mainly by photolysis. No residues of spinosyn or metabolites were found in cottonseed.

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In animals: Spinosad is rapidly absorbed and extensively metabolized. No residues of spinosad were found in meat, milk or eggs.

13. Disposal Considerations:
Unused unwanted product: Contact Dow AgroSciences or your provincial regulatory agency for disposal information.
Container disposal: Refer to the product label for instructions regarding cleaning and disposal of empty pesticide containers. If these instructions are missing or not understood, contact Dow AgroSciences at 800 667 3852 or your provincial regulatory agency for direction.

14. Transport Information:
This product is classified "Not Regulated" under regulations of the Transport of Dangerous goods Act.

15. Regulatory Information:
Pest Control Products Act registration number: 27825
For information phone: 800 667 3852
Master reference: 007516
MSDS status: Revised sections:
2. Composition
4. First Aid Measures
6. Accidental Release Measures
12. Ecological Information
Replaces MSDS dated: April 13, 2005

16. Other Information:
National Fire Code classification: Not regulated
NFPA Ratings: Health: 1; Flammability: 0; Reactivity: 0.
Notice: The information contained in this Material Safety Data Sheet ("MSDS") is current as of the effective date shown in Section 1 of this MSDS and may be subject to amendment by Dow AgroSciences Canada Inc. ("DASC") at any time. DASC accepts no liability whatsoever which results in any way from the use of MSDS that are not published by DASC, or have been amended without DASC express written authorization. Users of this MSDS must satisfy themselves that they have the most recent and authorized version of this MSDS and shall bear all responsibility and liability with respect thereto. Any conflict or inconsistencies as to the contents of this MSDS shall be resolved in favor of DASC by the most recent version of the MSDS published by DASC.