

**Product Name:** DELEGATE\* WG Insecticide**Issue Date:** 10/04/2010**Print Date:** 04 Oct 2010

Dow AgroSciences LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

**1. Product and Company Identification****Product Name**

DELEGATE\* WG Insecticide

**COMPANY IDENTIFICATION**

Dow AgroSciences LLC  
A Subsidiary of The Dow Chemical Company  
9330 Zionsville Road  
Indianapolis, IN 46268-1189  
USA

Customer Information Number: 800-992-5994

**EMERGENCY TELEPHONE NUMBER****24-Hour Emergency Contact:** 800-992-5994**Local Emergency Contact:** 800-992-5994**2. Hazards Identification****Emergency Overview****Color:** White to off-white**Physical State:** Granules.**Odor:** Musty**Hazards of product:**

WARNING! May cause allergic respiratory reaction. May cause eye irritation. Isolate area. Slipping hazard.

**OSHA Hazard Communication Standard**

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

**Potential Health Effects****Eye Contact:** May cause eye irritation. Corneal injury is unlikely. Solid or dust may cause irritation or corneal injury due to mechanical action.**Skin Contact:** Brief contact is essentially nonirritating to skin.**Skin Absorption:** Prolonged skin contact is unlikely to result in absorption of harmful amounts.

**Inhalation:** No adverse effects are anticipated from single exposure to dust.

**Respiratory Sensitization:** Based on information for component(s): May cause allergic respiratory response.

**Ingestion:** Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

**Aspiration hazard:** Based on physical properties, not likely to be an aspiration hazard.

**Effects of Repeated Exposure:** For similar active ingredient(s). In animals, Spinosad has been shown to cause vacuolization of cells in various tissues. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use. For the major component(s): Contains component(s) which have been reported to cause effects on the following organs in animals: Respiratory tract. Lung. Skin. Liver. Kidney.

**Cancer Information:** For the major component(s): Contains component(s) which have caused cancer in laboratory animals. Contains component(s) which have caused cancer in humans. For the minor component(s): Lung fibrosis and tumors have been observed in rats exposed to titanium dioxide in two lifetime inhalation studies. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Workers exposed to titanium dioxide in the workplace have not shown an unusual incidence of chronic respiratory disease or lung cancer. Titanium dioxide was not carcinogenic in laboratory animals in lifetime feeding studies.

### 3. Composition Information

Component	CAS #	Amount
Spinetoram J & L (CAS# 187166-40-1 & 187166-15-0)	see name column	25.0 %
Kaolin	1332-58-7	>= 1.6 - <= 41.9 %
Titanium dioxide	13463-67-7	1.1 %
Balance		>= 32.0 - <= 72.3 %

### 4. First-aid measures

**Eye Contact:** Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

**Skin Contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Suitable emergency safety shower facility should be available in work area.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

**Ingestion:** No emergency medical treatment necessary.

**Notes to Physician:** May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Maintain adequate ventilation and oxygenation of the patient. 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.

**Medical Conditions Aggravated by Exposure:** Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

**Emergency Personnel Protection:** First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

## 5. Fire Fighting Measures

**Extinguishing Media:** Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers.

**Fire Fighting Procedures:** 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. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Dust explosion hazard may result from forceful application of fire extinguishing agents. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special 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). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

**Unusual Fire and Explosion Hazards:** Do not permit dust to accumulate. When suspended in air dust can pose an explosion hazard. Minimize ignition sources. If dust layers are exposed to elevated temperatures, spontaneous combustion may occur. Dense smoke is produced when product burns.

**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.

## 6. Accidental Release Measures

**Steps to be Taken if Material is Released or Spilled:** Contain spilled material if possible. Small spills: Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance.

**Personal Precautions:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Keep upwind of spill. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

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

## 7. Handling and Storage

### Handling

**General Handling:** Keep out of reach of children. Avoid contact with eyes, skin, and clothing. Do not swallow. Avoid breathing vapor. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

### Storage

Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

## 8. Exposure Controls / Personal Protection

### Exposure Limits

Component	List	Type	Value
-----------	------	------	-------

<b>Kaolin</b>	ACGIH	TWA	2 mg/m3
		Respirable fraction.	The value is for particulate matter containing no asbestos and <1% crystalline silica.
	OSHA Table Z-1	PEL Respirable fraction.	5 mg/m3
	OSHA Table Z-1	PEL Total dust.	15 mg/m3
<b>Titanium dioxide</b>	ACGIH	TWA	10 mg/m3
	OSHA Table Z-1	PEL Total dust.	15 mg/m3
	Z3	Total dust.	5 mg/m3 millions of particles per cubic foot of air
	Z3	Respirable fraction.	15 mg/m3 millions of particles per cubic foot of air

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

### Personal Protection

**Eye/Face Protection:** Use safety glasses (with side shields). 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/butadiene rubber ("nitrile" or "NBR"). 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:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

**Ingestion:** Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

### Engineering Controls

**Ventilation:** Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

## 9. Physical and Chemical Properties

<b>Physical State</b>	Granules.
<b>Color</b>	White to off-white
<b>Odor</b>	Musty
<b>Odor Threshold</b>	No test data available
<b>Flash Point - Closed Cup</b>	Not applicable
<b>Flammable Limits In Air</b>	<b>Lower:</b> Not applicable <b>Upper:</b> Not applicable
<b>Autoignition Temperature</b>	No test data available

Vapor Pressure	Not applicable
Boiling Point (760 mmHg)	Not applicable.
Vapor Density (air = 1)	Not applicable
Specific Gravity (H <sub>2</sub> O = 1)	Not applicable
Liquid Density	Not applicable
Bulk Density	0.5 g/ml @ 21.8 °C <i>Tapped Volumetric</i>
Freezing Point	Not applicable
Melting Point	No test data available
Solubility in water (by weight)	Disperses in water
pH	8.7 (@ 1 %) <i>Measured</i> (1% aqueous suspension)
Decomposition	No test data available
Temperature	
Partition coefficient, n-octanol/water (log Pow)	No data available for this product.
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Dynamic Viscosity	Not applicable
Kinematic Viscosity	Not applicable

## 10. Stability and Reactivity

### Stability/Instability

Thermally stable at typical use temperatures.

**Conditions to Avoid:** Exposure to elevated temperatures can cause product to decompose.

**Incompatible Materials:** None known.

### Hazardous Polymerization

Will not occur.

### Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

## 11. Toxicological Information

### Acute Toxicity

#### Ingestion

As product. LD<sub>50</sub>, Rat > 5,000 mg/kg

#### Dermal

As product. LD<sub>50</sub>, Rat > 5,000 mg/kg

#### Inhalation

As product. LC<sub>50</sub>, 4 h, Aerosol, Rat > 5.28 mg/l

### Eye damage/eye irritation

May cause eye irritation. Corneal injury is unlikely. Solid or dust may cause irritation or corneal injury due to mechanical action.

### Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

### Sensitization

#### Skin

As product. Did not demonstrate the potential for contact allergy in mice.

#### Respiratory

Based on information for component(s): May cause allergic respiratory response.

### Repeated Dose Toxicity

For similar active ingredient(s). In animals, Spinosad has been shown to cause vacuolization of cells in various tissues. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use. For the major component(s): Contains component(s) which have been reported to cause effects on the following organs in animals: Respiratory tract. Lung. Skin. Liver. Kidney.

#### **Chronic Toxicity and Carcinogenicity**

Active ingredient did not cause cancer in laboratory animals. For the major component(s): Contains component(s) which have caused cancer in laboratory animals. Contains component(s) which have caused cancer in humans. For the minor component(s): Lung fibrosis and tumors have been observed in rats exposed to titanium dioxide in two lifetime inhalation studies. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Workers exposed to titanium dioxide in the workplace have not shown an unusual incidence of chronic respiratory disease or lung cancer. Titanium dioxide was not carcinogenic in laboratory animals in lifetime feeding studies.

#### **Carcinogenicity Classifications:**

<b>Component</b>	<b>List</b>	<b>Classification</b>
<b>Titanium dioxide</b>	IARC	Possibly carcinogenic to humans.; 2B

#### **Developmental Toxicity**

For the active ingredient(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

#### **Reproductive Toxicity**

In animal studies, active ingredient did not interfere with reproduction.

#### **Genetic Toxicology**

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative. For the major component(s): Has been shown to have mutagenic activity in bacteria. Based on information for component(s): Animal genetic toxicity studies were negative in some cases and positive in other cases.

## **12. Ecological Information**

### **ENVIRONMENTAL FATE**

Data for Component: **Spinetoram J & L (CAS# 187166-40-1 & 187166-15-0)**

#### **Movement & Partitioning**

Potential for mobility in soil is low (Koc between 500 and 2000).

#### **Persistence and Degradability**

No relevant information found.

Data for Component: **Kaolin**

#### **Movement & Partitioning**

Partitioning from water to n-octanol is not applicable.

#### **Persistence and Degradability**

Biodegradation is not applicable.

Data for Component: **Titanium dioxide**

#### **Movement & Partitioning**

Partitioning from water to n-octanol is not applicable.

#### **Persistence and Degradability**

Biodegradation is not applicable.

### **ECOTOXICITY**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

**Fish Acute & Prolonged Toxicity**EC50, bluegill (*Lepomis macrochirus*), static renewal, 96 h: 3.13 mg/l**Aquatic Invertebrate Acute Toxicity**EC50, water flea *Daphnia magna*, static renewal, 48 h, immobilization: > 5.88 mg/l**Aquatic Plant Toxicity**EbC50, diatom *Navicula* sp., biomass growth inhibition, 96 h: 0.113 mg/l**13. Disposal Considerations**

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.

**14. Transport Information****DOT Non-Bulk**

NOT REGULATED

**DOT Bulk**

NOT REGULATED

**IMDG****Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.**Technical Name:** Spinetoram**Hazard Class:** CLASS 9 **ID Number:** UN3077 **Packing Group:** PG III**EMS Number:** F-A,S-F**Marine pollutant.:** Yes**ICAO/IATA****Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.**Technical Name:** Spinetoram**Hazard Class:** CLASS 9 **ID Number:** UN3077 **Packing Group:** PG III**Cargo Packing Instruction:** 911**Passenger Packing Instruction:** 911**Additional Information**

MARINE POLLUTANT

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

**15. Regulatory Information****OSHA Hazard Communication Standard**

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

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312**

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	No
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313**

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:**

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
Kaolin	1332-58-7	>= 1.6 - <= 41.9 %
Titanium dioxide	13463-67-7	1.1%

**Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:**

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103**

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)**

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**US. Toxic Substances Control Act**

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

**16. Other Information****Hazard Rating System**

<b>NFPA</b>	<b>Health</b>	<b>Fire</b>	<b>Reactivity</b>
	1	1	0

**Revision**

Identification Number: 1006170 / 1016 / Issue Date 10/04/2010 / Version: 2.0

DAS Code: GF-1640

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

N/A	Not available
-----	---------------



---

W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

*Dow AgroSciences LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided 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 between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.*