



## Safety Data Sheet TITAN™ INSECTICIDE

SDS Number: 102000012783

SDS Version 1.1

Revision Date: 02/07/2014

Print Date: 02/11/2014

### SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

<b>Product name</b>	TITAN™ INSECTICIDE
<b>SDS Number</b>	102000012783
<b>Product code (UVP)</b>	06535151
<b>PCP Registration No.</b>	27449
<b>Product Use</b>	Insecticide, Seed treatment

Bayer CropScience Inc  
#200, 160 Quarry Park Blvd, SE  
Calgary, Alberta T2C 3G3  
Canada

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)  
For Product Information call: 1-888-283-6847

### SECTION 2. HAZARDS IDENTIFICATION

*NOTE: Please refer to Section 11 for detailed toxicological information.*

**Emergency Overview** Warning! Harmful or fatal if swallowed. Harmful if absorbed through skin. Avoid contact with skin and clothing.

**Physical State** liquid suspension

**Odor** characteristic

**Appearance** white to light beige

**Exposure routes** Inhalation, Skin Absorption, Eye contact, Ingestion

#### Immediate Effects

**Eye** Avoid contact with eyes.

**Skin** Harmful if absorbed through skin. Avoid contact with skin and clothing.

**Ingestion** Fatal if swallowed. Do not take internally.

**Inhalation** Do not breathe vapours or spray mist.

**Chronic or Delayed Long-Term** This product or its components may have target organ effects.



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**Potential Environmental Effect** Toxic to aquatic organisms. Toxic to birds. Toxic to mammals. Toxic to bees.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Clothianidin	210880-92-5	48.00
Glycerine	56-81-5	8.00
Fatty alcohol ethoxylate	68131-39-5	2.25

**SECTION 4. FIRST AID MEASURES**

<b>General</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Eye</b>	Hold eye 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 eye. Call a physician or poison control center immediately.
<b>Skin</b>	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.
<b>Inhalation</b>	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
<b>Notes to physician</b>	
<b>Signs and Symptoms</b>	No symptoms known or expected.
<b>Treatment</b>	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Flash point</b>	> 100 °C / > 212 °F
<b>Autoignition temperature</b>	no data available



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<b>Lower Flammability Limit</b>	no data available
<b>Upper Flammability Limit</b>	no data available
<b>Explosiveness</b>	not applicable
<b>Fire and Explosion Hazards</b>	Dangerous gases are evolved in the event of a fire.
<b>Suitable extinguishing media</b>	Water spray, Carbon dioxide (CO <sub>2</sub> ), Foam, Dry chemical
<b>Fire Fighting Instructions</b>	<p>Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.</p> <p>Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.</p>

### SECTION 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.
<b>Additional advice</b>	Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

### SECTION 7. HANDLING AND STORAGE

<b>Handling procedures</b>	Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.
<b>Storing Procedures</b>	<p>Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.</p> <p>Keep away from direct sunlight.</p>



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### Work/Hygienic Procedures

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>General Protection</b>	Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.
<b>Eye/Face Protection</b>	Tightly fitting safety goggles
<b>Hand protection</b>	Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)
<b>Body Protection</b>	Wear long-sleeved shirt and long pants and shoes plus socks.
<b>Respiratory protection</b>	When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

### Exposure Limits

Clothianidin	210880-92-5	OES BCS*	TWA	2.8 mg/m <sup>3</sup>
Glycerine	56-81-5	CAD AB OEL	TWA	10 mg/m <sup>3</sup>
		CAD BC OEL	TWA	3 mg/m <sup>3</sup>
		CAD BC OEL	TWA	10 mg/m <sup>3</sup>
		CAD ON OEL	TWAEV	10 mg/m <sup>3</sup>
		CAD SK OEL	8 HR ACL	10 mg/m <sup>3</sup>
		CAD SK OEL	15 MIN ACL	20 mg/m <sup>3</sup>
		OEL (QUE)	TWA	10 mg/m <sup>3</sup>

\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	white to light beige
<b>Physical State</b>	liquid suspension
<b>Odor</b>	characteristic
<b>pH</b>	5.0 - 7.0 (100 %) at 23 °C



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<b>Vapor Pressure</b>	no data available
<b>Vapor Density (Air = 1)</b>	no data available
<b>Density</b>	1.25 g/cm <sup>3</sup> at 20 °C
<b>Evaporation rate</b>	no data available
<b>Boiling Point</b>	no data available
<b>Melting / Freezing Point</b>	no data available
<b>Water solubility</b>	miscible
<b>Minimum Ignition Energy</b>	not applicable
<b>Decomposition temperature</b>	no data available
<b>Partition coefficient: n-octanol/water</b>	no data available
<b>Viscosity</b>	400 - 650 mPa.s

### SECTION 10. STABILITY AND REACTIVITY

<b>Conditions to avoid</b>	no data available
<b>Incompatibility</b>	Oxidizing agents
<b>Hazardous Decomposition Products</b>	Thermal decomposition Carbon dioxide (CO <sub>2</sub> ) Carbon monoxide
<b>Hazardous reactions</b>	No dangerous reaction known under conditions of normal use.

### SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the technical-grade active ingredient.

<b>Acute oral toxicity</b>	male rat: LD50: >= 2,000 mg/kg female rat: LD50: 2,000 mg/kg
<b>Acute dermal toxicity</b>	male/female combined rat: LD50: > 4,000 mg/kg



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<b>Acute inhalation toxicity</b>	<p>male/female combined rat: LC50: &gt; 2.6 mg/l Exposure time: 4 h Determined in the form of liquid aerosol.</p> <p>male/female combined rat: LC50: &gt; 10.4 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.</p>
<b>Skin irritation</b>	rabbit: No skin irritation
<b>Eye irritation</b>	rabbit: No eye irritation
<b>Sensitisation</b>	guinea pig: Non-sensitizing.
<b>Chronic toxicity</b>	Clothianidin did not cause specific target organ toxicity in experimental animal studies.

**Assessment Carcinogenicity**

Clothianidin was not carcinogenic in lifetime feeding studies in rats and mice.

- ACGIH**  
None.
- NTP**  
None.
- IARC**  
None.
- OSHA**  
None.

<b>Reproductive toxicity</b>	Clothianidin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Clothianidin is related to parental toxicity.
<b>Developmental Toxicity</b>	<p>Clothianidin did not cause developmental toxicity in rats.</p> <p>Clothianidin caused developmental toxicity in rabbits only at dose levels toxic to the dams. The developmental effects seen with Clothianidin are related to maternal toxicity.</p>
<b>Mutagenicity</b>	Clothianidin was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

**SECTION 12. ECOLOGICAL INFORMATION**

<b>Toxicity to fish</b>	<p>Rainbow trout (<i>Oncorhynchus mykiss</i>) LC50: &gt; 104.2 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient clothianidin.</p>
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<b>Toxicity to aquatic plants</b>	<i>Pseudokirchneriella subcapitata</i> Growth rate IC50: 70 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient clothianidin.
	<i>Lemna gibba</i> (duckweed) EC50: 270 mg/l Exposure time: 14 d The value mentioned relates to the active ingredient clothianidin.
<b>Acute Toxicity to Aquatic Invertebrates</b>	Water flea ( <i>Daphnia magna</i> ) EC50: > 40 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient clothianidin.
	<i>Chironomus riparius</i> (non-biting midge) EC15: 0.00072 mg/l Exposure time: 28 d The value mentioned relates to the active ingredient clothianidin.
	<i>Chironomus riparius</i> (non-biting midge) EC50: 0.00106 mg/l Exposure time: 28 d The value mentioned relates to the active ingredient clothianidin.
<b>Chronic toxicity to aquatic invertebrates</b>	<i>Daphnia</i> NOEC: 0.12 mg/l Exposure time: 21 d The value mentioned relates to the active ingredient clothianidin.
<b>Environmental precautions</b>	Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not allow to get into surface water, drains and ground water. Apply this product as specified on the label.



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**SECTION 13. DISPOSAL CONSIDERATIONS**

<b>General Disposal Guidance</b>	Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.
<b>Container Disposal</b>	Do not re-use empty containers. Triple rinse containers. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.

**SECTION 14. TRANSPORT INFORMATION**

<b>TDG</b>	Not dangerous goods / not hazardous material
<b>49CFR</b>	Not dangerous goods / not hazardous material
<b>IMDG</b>	
UN number	<b>3082</b>
Class	9
Packaging group	III
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CLOTHIANIDIN SOLUTION)
<b>IATA</b>	
UN number	<b>3082</b>
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CLOTHIANIDIN SOLUTION )

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

**SECTION 15. REGULATORY INFORMATION**

<b>PCP Registration No.</b>	27449
<b>US Federal Regulations</b>	
<b>TSCA list</b>	
Glycerine	56-81-5
Fatty alcohol ethoxylate	68131-39-5





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**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

None.

**SARA Title III - Section 302 - Notification and Information**

None.

**SARA Title III - Section 313 - Toxic Chemical Release Reporting**

None.

**US States Regulatory Reporting**

**CA Prop65**

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

**US State Right-To-Know Ingredients**

Glycerine	56-81-5	MN
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**Canadian Regulations**

**Canadian Domestic Substance List**

Glycerine	56-81-5
Fatty alcohol ethoxylate	68131-39-5

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**International Regulations**

**European Inventory of Existing Commercial Substances (EINECS)**

Glycerine	56-81-5
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**SECTION 16. OTHER INFORMATION**

**NFPA 704 (National Fire Protection Association):**

Health - 1	Flammability - 1	Instability - 0	Others - none
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**HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)**

Health - 1	Flammability - 1	Physical Hazard - 0	PPE -
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0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: Reviewed and updated for general editorial purposes.

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

Bayer CropScience



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