



**Material Safety Data Sheet**

**DELTADUST® INSECTICIDE**

MSDS Number: 102000004846

MSDS Version 2.0

Revision Date: 04/06/2011

Print Date: 04/06/2011

**SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

**Product name** DELTADUST® INSECTICIDE  
**MSDS Number** 102000004846  
**EPA Registration No.** 432-772

Bayer Environmental Science  
2 T.W. Alexander Drive  
Research Triangle PK, NC 27709  
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)  
For Product Information call: 1-800-331-2867

**SECTION 2. HAZARDS IDENTIFICATION**

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

**Emergency Overview** Caution! May be harmful if absorbed through skin. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling.

**Physical State** solid powder

**Odor** weak characteristic

**Appearance** white

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

**Immediate Effects**

**Eye** Avoid contact with eyes.

**Skin** May be harmful if absorbed through skin. May cause a transient, localized paresthesia, characterized by tingling, burning or numbness sensation in some individuals. Avoid contact with skin and clothing.

**Ingestion** Do not take internally.

**Inhalation** May cause respiratory tract irritation. Avoid breathing dust.



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**Chronic or Delayed Long-Term**

This product is not listed as a carcinogen by ACGIH, NTP, IARC or OSHA. However, it may contain crystalline silica (quartz), a substance which has been listed as a carcinogen by ACGIH, NTP and IARC. Crystalline silica is a naturally-occurring mineral component of many sands and clays. Although the carcinogenic potential of crystalline silica in humans is controversial, it must be considered if it is inhaled under excessive exposure conditions. The respirable portion of the silica that may be contained in this product, however, is small, such that inhalation exposure during anticipated conditions of use is minimal. This product or its components may have long term (chronic) health effects.

**Medical Conditions Aggravated by Exposure**

No specific medical conditions are known which may be aggravated by exposure to this product. As with all materials which can cause upper respiratory tract irritation, persons with a history of asthma, emphysema, or hyperreactive airways disease may be more susceptible to overexposure. Pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.

**Potential Environmental Effect**

Extremely toxic to fish and aquatic invertebrates.

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

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Deltamethrin	52918-63-5	0.05
Quartz (Silica, Crystalline)	14808-60-7	2.50
Crystalline quartz (respirable)		
Calcium carbonate	1317-65-3	95.40

**SECTION 4. FIRST AID MEASURES**

- General** When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
- Eye** 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.
- Skin** 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.
- Ingestion** 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.
- Inhalation** Move to fresh air. If person is not breathing, call 911 or an ambulance, then give



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artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

**Notes to physician  
Treatment**

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>	not applicable
<b>Autoignition temperature</b>	not applicable
<b>Lower Flammability Limit</b>	not applicable
<b>Upper Flammability Limit</b>	not applicable
<b>Suitable extinguishing media</b>	Carbon dioxide (CO2), Dry chemical, Foam, Water
<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. Contain the spread of the fire-fighting media.</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>	Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. 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>	Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Handle and open container in a manner as to prevent spillage.
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**Storing Procedures**                      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.

**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**

**General Protection**                      Follow all label instructions. Train employees in safe use of the product.  
  
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.

**Eye/Face Protection**                      Safety glasses  
or  
Goggles

**Hand protection**                              Chemical resistant nitrile rubber gloves

**Body Protection**                              Wear long-sleeved shirt and long pants and shoes plus socks.

**Respiratory protection**                      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**

Deltamethrin Quartz (Silica, Crystalline)	52918-63-5	OES BCS*	TWA	0.02 mg/m3
	14808-60-7	ACGIH	TWA	0.025 mg/m3
		NIOSH	REL	0.05 mg/m3
		OSHA Z1A	TWA	0.1 mg/m3
		Z3	TWA	2.4 millions of particles per cubic foot of air
		Z3	TWA	0.1 mg/m3
		Z3	TWA	0.3 mg/m3
		US CA OEL	TWA PEL	0.1 mg/m3
		US CA OEL	TWA PEL	0.3 mg/m3
		TX ESL	ST ESL	1 ug/m3
		TX ESL	ST ESL	1 ug/m3



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		TX ESL	AN ESL	0.1 ug/m3
		TX ESL	AN ESL	0.1 ug/m3
		TX ESL	ST ESL	10 ug/m3
		TX ESL	AN ESL	1 ug/m3
			TWA	0.1 mg/m3
Calcium carbonate	1317-65-3	NIOSH	REL	5 mg/m3
		NIOSH	REL	10 mg/m3
		OSHA Z1	PEL	5 mg/m3
		OSHA Z1	PEL	15 mg/m3
		OSHA Z1A	TWA	5 mg/m3
		OSHA Z1A	TWA	15 mg/m3
		TX ESL	ST ESL	50 ug/m3
		TX ESL	AN ESL	5 ug/m3

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

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	white
<b>Physical State</b>	solid powder
<b>Odor</b>	weak characteristic
<b>pH</b>	no data available
<b>Vapor Pressure</b>	not applicable
<b>Vapor Density (Air = 1)</b>	not applicable
<b>Bulk density</b>	55.5 lb/ft <sup>3</sup> (loose)
<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>	soluble
<b>Minimum Ignition Energy</b>	no data available
<b>Decomposition temperature</b>	no data available



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**Partition coefficient: n-octanol/water**      no data available

#### SECTION 10. STABILITY AND REACTIVITY

**Conditions to avoid**      no data available

**Incompatibility**      Strong acids

**Hazardous Decomposition Products**      no data available

**Hazardous reactions**      No hazardous reactions known.

**Chemical Stability**      Stable under recommended storage conditions.

#### SECTION 11. TOXICOLOGICAL INFORMATION

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

**Acute oral toxicity**      rat: LD50: > 5,050 mg/kg

**Acute dermal toxicity**      rabbit: LD50: > 2,020 mg/kg

**Acute inhalation toxicity**      rat: LC50: > 26.1 mg/l  
Exposure time: 4 h  
Determined in the form of dust.

rat: LC50: > 100 mg/l  
Exposure time: 1 h  
Determined in the form of dust.  
Extrapolated from the 4 hr LC50.

**Skin irritation**      rabbit: No skin irritation

**Eye irritation**      rabbit: No eye irritation

**Sensitisation**      guinea pig: Non-sensitizing.

**Chronic toxicity**      Deltamethrin caused neurobehavioral effects (e.g., tremors) in chronic toxicity studies in rats and dogs.

#### Assessment Carcinogenicity

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

#### ACGIH

Quartz (Silica, Crystalline)

14808-60-7

Group A2



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**NTP**

Crystalline quartz (respirable)

**IARC**

Deltamethrin

52918-63-5

Overall evaluation: 3

Quartz (Silica, Crystalline)

14808-60-7

Overall evaluation: 1

**OSHA**

None.

**Reproductive toxicity**

REPRODUCTION: Deltamethrin was not a reproductive toxicant in multi-generation reproduction studies in rats.

DEVELOPMENTAL TOXICITY: Deltamethrin was not a primary developmental toxicant in developmental toxicity studies in rats and rabbits. Developmental effects (e.g., delayed ossifications) were observed in rabbits at the high-dose but were considered secondary to maternal toxicity.

**Assessment neurotoxicity**

Deltamethrin caused neurobehavioral effects (e.g., tremors) without correlating neuropathological changes in acute and subchronic neurotoxicity screening studies in rats. In a developmental neurotoxicity screening study in rats, developmental landmarks were delayed in male offspring at the maternally toxic high-dose.

**Mutagenicity**

Deltamethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**SECTION 12. ECOLOGICAL INFORMATION**

**Toxicity to fish**

Rainbow trout (*Oncorhynchus mykiss*)  
LC50: 0.00091 mg/l  
Exposure time: 96 h  
The value mentioned relates to the active ingredient deltamethrin.

**Toxicity to aquatic plants**

Algae  
EC50: > 9.1 mg/l  
Exposure time: 96 h  
The value mentioned relates to the active ingredient deltamethrin.

**Acute Toxicity to Aquatic Invertebrates**

Water flea (*Daphnia magna*)  
EC50: 0.00056 mg/l  
Exposure time: 48 h  
The value mentioned relates to the active ingredient deltamethrin.

**Environmental precautions**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash 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>	Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.
<b>RCRA Information</b>	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

**SECTION 14. TRANSPORT INFORMATION**

<b>49CFR</b>	Not dangerous goods / not hazardous material
<b>IMDG</b>	
UN-Number	<b>3077</b>
Class	9
Packaging group	III
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DELTAMETHRIN MIXTURE)
<b>IATA</b>	
UN-Number	<b>3077</b>
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DELTAMETHRIN MIXTURE )

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**

**EPA Registration No.** 432-772





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**US Federal Regulations**

**TSCA list**

Quartz (Silica, Crystalline) 14808-60-7  
Calcium carbonate 1317-65-3

**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 contains a chemical known to the State of California to cause cancer.  
Crystalline quartz (respirable)

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

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

Quartz (Silica, Crystalline) 14808-60-7 IL, MA  
Calcium carbonate 1317-65-3 MN, RI

**Canadian Regulations**

**Canadian Domestic Substance List**

Quartz (Silica, Crystalline) 14808-60-7

**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)**

Deltamethrin 52918-63-5  
Quartz (Silica, Crystalline) 14808-60-7

**SECTION 16. OTHER INFORMATION**

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 0 Reactivity - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 0 Flammability - 0 Physical Hazard - 0 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard



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Reason for Revision: Updated for general editorial purposes. The following sections have been revised:  
Section 14: Transport Information.

Revision Date: 04/06/2011

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