Material Safety Data Sheet

DELTADUST® INSECTICIDE

MSDS Number: 102000004846
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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.

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

Hazardous Component Name	CAS-No.	Average % by Weight
Deltamethrin	52918-63-5	0.05
Quartz (Silica, Crystalline) Crystalline quartz (respirable)	14808-60-7	2.50
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

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

Flash point	not applicable
Autoignition temperature	not applicable
Lower Flammability Limit	not applicable
Upper Flammability Limit	not applicable
Suitable extinguishing media	Carbon dioxide (CO2), Dry chemical, Foam, Water
Fire Fighting Instructions	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. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
Methods for cleaning up	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.
Additional advice	Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

SECTION 7. HANDLING AND STORAGE

Handling procedures	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.

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	52918-63-5	OES BCS*	TWA	0.02 mg/m3
Quartz (Silica, Crystalline)	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

		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

Appearance	white
Physical State	solid powder
Odor	weak characteristic
pH	no data available
Vapor Pressure	not applicable
Vapor Density (Air = 1)	not applicable
Bulk density	55.5 lb/ft³ (loose)
Evaporation rate	no data available
Boiling Point	no data available
Melting / Freezing Point	no data available
Water solubility	soluble
Minimum Ignition Energy	no data available
Decomposition temperature	no data available

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

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.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance	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.
Container Disposal	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.
RCRA Information	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

49CFR	Not dangerous goods / not hazardous material

IMDG

UN-Number	**3077**
Class	9
Packaging group	III
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DELTAMETHRIN MIXTURE)

IATA

UN-Number	**3077**
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

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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DELTADUST® INSECTICIDE

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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