



Material Safety Data Sheet

MSDS Number: R000045960

MERIT® 2.5 G Ornamental Insecticide

MSDS Version: 2.1

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name	MERIT® 2.5 G Ornamental Insecticide
Chemical Name	
Common Name	
MSDS Number	R000045960
Chemical Family	Chloronicotinyl
Chemical Formulation	
EPA Registration No.	432-1376
Product Use	Insecticide for systemic insect control in ornamental plants.

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. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS No.</u>	<u>Concentration % by Weight</u>	
		<u>Minimum</u>	<u>Maximum</u>
Imidacloprid Technical	138261-41-3	2.2000	2.7000
Crystalline Silica (Quartz)	14808-60-7		8.8900

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview Caution! Harmful if swallowed or absorbed through skin. Causes eye irritation. Avoid contact with skin, eyes and clothing.

Physical State Solid Granular

Appearance Grey Brown

Routes of Exposure Inhalation, Skin contact, Skin Absorption, Eye contact

Immediate Effects

Eye Causes eye irritation. Do not get in eyes.

Skin Harmful if absorbed through skin. Do not get in eyes, on skin, or on clothing.

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Ingestion	Harmful if swallowed. Do not take internally.
Inhalation	May be harmful if inhaled. 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 excessive inhalation exposure during anticipated conditions of use is unlikely.
Medical Conditions Aggravated by Exposure	No specific medical conditions are known which may be aggravated by exposure to this product. Pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.

SECTION 4. FIRST AID MEASURES

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 poison control center or doctor for treatment advice.
Skin	Take off all contaminated clothing immediately. Rinse immediately with plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.
Ingestion	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious or convulsing person.
Inhalation	Move to fresh air. Call a poison control center or doctor for further treatment advice.
Notes to Physician	
Treatment	There is no antidote. Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point	Not applicable
Suitable Extinguishing Media	Water, Carbon dioxide (CO ₂), Dry chemical, Foam
Fire Fighting Instructions	Keep out of smoke. Cool closed containers exposed to fire with water spray. Fight fire from upwind position. Wear self-contained breathing apparatus and protective suit. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

General and Disposal	Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.
Land Spill or Leaks	Avoid dust formation. Use recommended protective equipment while carefully sweeping up spilled material. Place in covered container for reuse or disposal. Scrub contaminated area with soap and water. Rinse with water. Use dry absorbent material such as clay granules to absorb and collect wash solution for proper disposal. Contaminated soil may have to be removed and disposed. Do not allow material to enter streams, sewers, or other waterways.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	Handle and open container in a manner as to prevent spillage.
Storing Procedures	Do not contaminate water, food, or feed by storage or disposal. Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, 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 before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. As soon as practical, wash thoroughly and change into clean clothing.
Min/Max Storage Temperatures	No minimum / 30 day average temperature not to exceed 37.8°C (100°F)

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls	Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.
Eye/Face Protection	Tightly fitting safety goggles.
Hand Protection	Chemical resistant gloves made of waterproof material such as polyethylene or polyvinyl chloride.
Body Protection	Wear long-sleeved shirt and long pants and shoes plus socks.
Respiratory Protection	When respiratory protection is necessary under the conditions of use, wear a respirator approved by the National Institute for Occupational Safety and Health (NIOSH).
General Protection	Educate and train employees in safe use of the product. Follow all label instructions.

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Exposure Limits

Crystalline Silica (Quartz)	14808-60-7	NIOSH	REL		0.05 mg/m3
		Form of Exposure	Respirable dust.		
		OSHA Z1A	TWA		0.1 mg/m3
		Form of Exposure	Respirable dust.		
		US CA OEL	TWA PEL		0.1 mg/m3
		Form of Exposure	Respirable dust.		
		US CA OEL	TWA PEL		0.3 mg/m3
		Form of Exposure	Total dust.		
		ACGIH	TWA		0.05 mg/m3
		Form of Exposure	Respirable fraction.		
		OSHA Z1	PEL		5 mg/m3
		Form of Exposure	Respirable fraction.		
		OSHA Z1	PEL		15 mg/m3
		Form of Exposure	Total dust.		

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Grey Brown
Physical State	Solid Granular
Bulk Density	38-43 lbs/cu ft.
Water Solubility	Slightly soluble

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Conditions to Avoid	Elevated temperatures
Hazardous Decomposition Products	Hydrogen chloride (HCl) Hydrogen cyanide (hydrocyanic acid) Carbon dioxide (CO ₂) Nitrogen oxides (NO _x)
Hazardous Polymerization (Conditions to Avoid)	Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

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

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Acute Oral Toxicity	Male/Female Rat: LD50: > 4,820 mg/kg
Acute Dermal Toxicity	Male/Female Rabbit: LD50: > 2,000 mg/kg
Acute Inhalation Toxicity	Male/Female Rat: LC50: 4-hr exposure to dust: > 5.09 mg/l (analytical) Male/Female Rat: 1-hr exposure to dust (extrapolated from 4-hr LC50): > 20 mg/l (analytical)
Skin Irritation	Rabbit: non-irritant
Eye Irritation	Rabbit: Mild irritant.
Sensitization	Guinea pig: non-sensitizing
Subchronic Toxicity	In a 3-week dermal toxicity study, rabbits treated with imidacloprid showed no local or systemic effects at levels up to and including 1000 mg/kg, the limit dose. In a 4-week inhalation study, rats exposed to high concentrations of imidacloprid exhibited decreased body weight gains and changes in clinical chemistries and organ weights.
Chronic Toxicity	In chronic dietary studies in rats and dogs exposed to imidacloprid, the target organs were the thyroids and/or liver.

Assessment Carcinogenicity

In oncogenicity studies in rats and mice, imidacloprid was not considered carcinogenic in either species.

ACGIH

Crystalline Silica (Quartz) 14808-60-7 Group A2

NTP

Crystalline Silica (Quartz) 14808-60-7

IARC

Crystalline Silica (Quartz) 14808-60-7

OSHA

None

Reproductive & Developmental Toxicity

REPRODUCTION: In a two-generation reproduction study in rats, imidacloprid was not a primary reproductive toxicant. Offspring exhibited reduced body weights at the high dose and in conjunction with maternal toxicity.

DEVELOPMENTAL TOXICITY: In developmental toxicity studies in rats and rabbits, there was no evidence of an embryotoxic or teratogenic potential for imidacloprid. In both species, developmental effects were observed only at high doses and in conjunction with maternal toxicity.

Neurotoxicity

In acute and subchronic neurotoxicity screening studies in rats, imidacloprid produced slight neurobehavioral effects in each study at the highest dose tested. There were no correlating morphological changes observed in the neural tissues.

In a one-generation developmental neurotoxicity screening study in rats, offspring exposed to imidacloprid showed decreased motor activities. These effects occurred at the highest dose tested and in conjunction with maternal toxicity. There were no correlating morphological changes observed in the neural tissues.

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Mutagenicity The imidacloprid mutagenicity studies, taken collectively, demonstrate that the active ingredient is not genotoxic or mutagenic.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions Highly toxic to aquatic invertebrates. 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.

Ecological Information This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law.

Container Disposal Empty remaining contents. Then dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

RCRA Classification Not Regulated under this Statute

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
Not regulated for Domestic Surface Transportation

FREIGHT CLASSIFICATION:
Insecticides or fungicides, N.O.I.; other than poison

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 432-1376

US Federal Regulations

TSCA list

Crystalline Silica (Quartz) 14808-60-7

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

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CA Prop65

This product contains a chemical known to the state of California to cause cancer. Crystalline Silica (Quartz) 14808-60-7

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

US State right-to-know ingredients

Crystalline Silica (Quartz) 14808-60-7 IL, MA, MN, PA

Canadian Regulations

Canadian Domestic Substance List

Crystalline Silica (Quartz) 14808-60-7

Environmental

CERCLA

None

Clean Water Section 307 Priority Pollutants

None

Safe Drinking Water Act Maximum Contaminant Levels

None

International Regulations

EU Classification

None

European Inventory of Existing Commercial Substances (EINECS)

Crystalline Silica (Quartz) 14808-60-7

SECTION 16. OTHER INFORMATION

NFPA	Health	Flammability	Reactivity	Others
	1	1	1	None

MSDS REVISION INDICATOR: Section 3: Updated statements and Section 11: Updated toxicological information.

Approval Date: 08/31/2004

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