



Material Safety Data Sheet

BAYLETON® 50 WSP SYSTEMIC FUNGICIDE / TURF AND ORNAMENTAL FUNGICIDE IN WATER SOLUBLE PACKETS

MSDS Number: 102000006712

MSDS Version 2.0

Revision Date: 02/01/2006

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name BAYLETON® 50 WSP SYSTEMIC FUNGICIDE / TURF AND ORNAMENTAL FUNGICIDE IN WATER SOLUBLE PACKETS
MSDS Number 102000006712
Chemical Family Triazole Fungicide
EPA Registration No. 432-1360
Product Use For the control of certain diseases on flowers, foliage plants, shrubs, turf and shade trees.

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>Average % by Weight</u>
Triadimefon	43121-43-3	50.00
Quartz (Silica, Crystalline)	14808-60-7	0.36

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview Caution! Harmful if swallowed, inhaled or absorbed through the skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes and clothing. Avoid breathing dust or spray mist.

Physical State granular
Odor sharp musty
Appearance brown



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Routes of Exposure	Eye contact, Skin contact, Inhalation, Skin Absorption
Immediate Effects	
Eye	Moderate eye irritation may occur from contact with the granular material or spray mixture. Avoid contact with eyes.
Skin	Slight irritation. Repeated contact may sensitize the skin, leading to allergic reactions. Harmful if absorbed through skin. Avoid contact with skin and clothing.
Ingestion	Harmful if swallowed. Do not take internally.
Inhalation	Avoid breathing dust or spray mist. Harmful if inhaled.
Chronic or Delayed Long-Term	<p>This product or its components may have target organ effects. This product or its components may have long term (chronic) health effects. This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic).</p> <p>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.</p>
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.

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 poison control center or doctor for treatment advice.



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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. 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 poison control center or doctor for further treatment advice.
Notes to Physician Signs and Symptoms	Poisoning is accompanied by hyperactivity followed by sedation.
Treatment	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point	not applicable
Suitable Extinguishing Media	water, carbon dioxide (CO2), foam, dry chemical
Fire Fighting Instructions	Keep out of smoke. Fight fire from upwind position. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated. In the event of fire, wear self-contained breathing apparatus.

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	Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional Advice	Avoid dust formation. Use personal protective equipment. Do not allow product to enter streams, sewers or other waterways.



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SECTION 7. HANDLING AND STORAGE

Handling Procedures	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 pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Protect containers from physical damage. Avoid moisture.
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 and wash contaminated clothing before re-use. Before removing gloves clean them with soap and water. As soon as practical, wash thoroughly and change into clean clothing.
Min/Max Storage Temperatures	Do not transport or store below 0 °C / 32 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection	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. Train employees in safe use of the product. Follow all label instructions.
Engineering Controls	Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.
Eye/Face Protection	protective eyewear
Hand Protection	Chemical-resistant gloves made of waterproof material such as neoprene, butyl rubber, barrier laminate or nitrile rubber
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).
Exposure Limits	
Quartz (Silica, Crystalline)	14808-60-7 ACGIH TWA 0.05 mg/m3



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Form of Exposure		Respirable fraction.	
ACGIH NIC	TWA		0.025 mg/m3
Form of Exposure		Respirable fraction.	
NIOSH	REL		0.05 mg/m3
Form of Exposure		Respirable dust.	
OSHA Z1A	TWA		0.1 mg/m3
Form of Exposure		Respirable dust.	
Z3	TWA		2.4 millions of particles per cubic foot of air
Form of Exposure		Respirable.	
Remarks		The value is calculated from a specified equation using a value of 100%. Lower values of % will give higher exposure limits. See regulation for specific equation.	
Z3	TWA		0.1 mg/m3
Form of Exposure		Respirable.	
Remarks		The value is calculated from a specified equation using a value of 100%. Lower values of % will give higher exposure limits. See regulation for specific equation.	
Z3	TWA		0.3 mg/m3
Form of Exposure		Total dust.	
Remarks		The value is calculated from a specified equation using a value of 100%. Lower values of % will give higher exposure limits. See regulation for specific equation.	
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.	
OSHA Z1	PEL		5 mg/m3
Form of Exposure		Respirable fraction.	
OSHA Z1	PEL		15 mg/m3
Form of Exposure		Total dust.	



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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	brown
Physical State	granular
Odor	sharp musty
pH	7.0 - 8.5 (5 %) aqueous suspension
Bulk Density	32 - 37 lbs./cu.ft.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Conditions to Avoid	Exposure to moisture. Exposure to extreme heat.
Incompatibility	strong oxidizing agents acids
Hazardous Decomposition Products	Thermal decomposition amines Carbon monoxide hydrogen chloride (HCl) nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity studies have been bridged from a similar formulation containing the same percent of the active ingredient, triadimefon. The non-acute information pertains to the technical-grade active ingredient.

Acute Oral Toxicity	male rat: LD50: 812 mg/kg female rat: LD50: 1,470 mg/kg
Acute Dermal Toxicity	male/female rat: LD50: > 2,000 mg/kg male/female rabbit: LD50: > 2,000 mg/kg



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Acute Inhalation Toxicity male/female rat: LC50: > 3.5 mg/l
Exposure time: 4 h
Determined in the form of dust.
(actual)

male/female rat: LC50: > 14.0 mg/l
Exposure time: 1 h
Determined in the form of dust.
Extrapolated from the 4 hr LC50.
(actual)

Skin Irritation rabbit: Slight irritation.

Eye Irritation rabbit: Minimally irritating.

Sensitization Potential skin sensitizer based on technical-grade triadimefon.

Chronic Toxicity The major organs affected from long-term exposure to triadimefon in chronic studies in rats and dogs were the liver and/or thyroid (secondary effects).

Assessment Carcinogenicity

EPA has classified triadimefon as a Group C (possible human carcinogen) based on borderline statistically significant increases in thyroid adenomas in male rats, and increases in liver adenomas in both sexes in mice. The Agency used a non-linear methodology approach for determining the Margin of Exposure (MOE) for the estimation of human cancer risk because the tumors were benign, and there were no apparent genotoxicity concerns. Therefore, EPA has a reasonable certainty that no harm will result from exposure to residues of triadimefon.

ACGIH

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

Quartz (Silica, Crystalline)	14808-60-7	
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IARC

Quartz (Silica, Crystalline)	14808-60-7	Overall evaluation: 1
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OSHA

None.

Reproductive & Developmental Toxicity REPRODUCTION: In reproduction studies in rats, triadimefon caused reproductive effects (e.g., smaller litter sizes) in conjunction with parental toxicity at the highest dose tested.

DEVELOPMENTAL TOXICITY: Triadimefon is not a primary developmental toxicant based on developmental toxicity studies in rats and rabbits. Malformations were observed in both species but only at maternally-toxic dose levels.

Neurotoxicity Triadimefon caused prominent hyperactivity-related neurobehavioral changes in



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acute (oral gavage) and subchronic (diet) neurotoxicity screening studies in rats. There were no neuropathologic alterations in the skeletal muscle or neural tissues in either study.

Mutagenicity

Triadimefon is not considered genotoxic or mutagenic based on in vitro and in vivo mutagenicity studies.

SECTION 12. ECOLOGICAL INFORMATION

**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 apply when weather conditions favor runoff or drift. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product only as specified on the label.

Ecological Information

Ground Water Advisory: 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.



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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. It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow any applicable state or local guidelines. Never place unused product down any indoor or outdoor drain.

Container Disposal Do not re-use empty containers. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke.

For Homeowners: Do not re-use empty containers. If empty, place in trash or offer for recycling if available. If partly filled, call your local solid waste agency for disposal instructions. Refer to the product label for other disposal instructions.

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. 432-1360

US Federal Regulations

TSCA list

Quartz (Silica, Crystalline) 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

Triadimefon 43121-43-3 1.0%

US States Regulatory Reporting

CA Prop65

This product contains a chemical known to the State of California to cause cancer.

Quartz (Silica, Crystalline) 14808-60-7



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This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Triadimefon	43121-43-3	Developmental toxin.
Triadimefon	43121-43-3	Female reproductive toxin.
Triadimefon	43121-43-3	Male reproductive toxin.

US State Right-To-Know Ingredients

Triadimefon	43121-43-3	NJ
Quartz (Silica, Crystalline)	14808-60-7	IL, MA, MN, RI

Canadian Regulations

Canadian Domestic Substance List

Quartz (Silica, Crystalline)	14808-60-7
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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)

Triadimefon	43121-43-3
Quartz (Silica, Crystalline)	14808-60-7

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

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

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

Reason to Revise: Re-numbered due to system update; Updated sections as needed.

Revision Date: 02/01/2006

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