



**Material Safety Data Sheet**

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

MSDS Number: 102000012193

MSDS Version 2.2

Revision Date: 06/21/2010

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

<b>Product name</b>	BAYLETON® 50 SYSTEMIC FUNGICIDE / TURF AND ORNAMENTAL FUNGICIDE IN WATER SOLUBLE PACKETS
<b>MSDS Number</b>	102000012193
<b>EPA Registration No.</b>	432-1360

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! 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

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

**Immediate Effects**

**Eye** Moderate eye irritation may occur. 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.



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**Chronic or Delayed Long-Term**

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).

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.

**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 3. 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) Crystalline quartz (respirable)	14808-60-7	0.36

**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



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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  
Signs and  
Symptoms** hyperactivity followed by sedation

**Treatment** Treat symptomatically. There is no specific antidote.

**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. Do not allow run-off from fire fighting to enter drains or water courses.

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. Avoid dust formation.

**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** Use personal protective equipment.

**SECTION 7. HANDLING AND STORAGE**

**Handling procedures** 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.

**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.



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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.

Before removing gloves clean them with soap and water. Wash thoroughly and put on clean clothing. Remove soiled clothing immediately and clean thoroughly before using again.

**Min/Max Storage Temperatures**

No minimum / 60 day average temperature not to exceed 37.8°C / 100°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.

**Eye/Face Protection**

Safety glasses with side-shields

**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**

Quartz (Silica, Crystalline)	14808-60-7	ACGIH	TWA	0.025 mg/m3
		NIOSH OSHA Z1A Z3	REL	0.05 mg/m3
			TWA	0.1 mg/m3
			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
Triadimefon	43121-43-3	OES BCS*	TWA	0.7 mg/m3

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

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	brown
<b>Physical State</b>	granular
<b>Odor</b>	sharp musty
<b>pH</b>	7.0 - 8.5 (5 %) aqueous suspension
<b>Bulk density</b>	35 - 37 lb/ft <sup>3</sup> Bulk Density: Fluffed - 36 lb./ ft.3 Packed - 39 - 41 lb./ ft.3

**SECTION 10. STABILITY AND REACTIVITY**

<b>Conditions to avoid</b>	Exposure to moisture. Heat, flames and sparks.
<b>Incompatibility</b>	Strong oxidizing agents Acids
<b>Hazardous Decomposition Products</b>	Thermal decomposition Amines Hydrogen chloride (HCl) nitrogen oxides (NOx) Carbon monoxide
<b>Chemical Stability</b>	Stable under recommended storage conditions.

**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, triadimefon.



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<b>Acute oral toxicity</b>	male rat: LD50: 812 mg/kg  female rat: LD50: 1,470 mg/kg
<b>Acute dermal toxicity</b>	male/female combined rat: LD50: > 2,000 mg/kg  male/female combined rabbit: LD50: > 2,000 mg/kg
<b>Acute inhalation toxicity</b>	male/female combined rat: LC50: > 3.5 mg/l Exposure time: 4 h Determined in the form of a respirable fine dust. (actual)  male/female combined rat: LC50: > 14.0 mg/l Exposure time: 1 h Determined in the form of a respirable fine dust. Extrapolated from the 4 hr LC50. (actual)
<b>Skin irritation</b>	rabbit: slight irritation
<b>Eye irritation</b>	rabbit: Minimally irritating.
<b>Sensitisation</b>	Potential skin sensitizer based on technical-grade triadimefon.
<b>Chronic toxicity</b>	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).
<b>Assessment Carcinogenicity</b>	
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.	
<b>ACGIH</b>	
Quartz (Silica, Crystalline)	14808-60-7      Group A2
<b>NTP</b>	
Crystalline quartz (respirable)	
<b>IARC</b>	
Quartz (Silica, Crystalline)	14808-60-7      Overall evaluation: 1
<b>OSHA</b>	
None.	
<b>Reproductive toxicity</b>	REPRODUCTION: In reproduction studies in rats, triadimefon caused reproductive effects (e.g., smaller litter sizes) in conjunction with parental toxicity



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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 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 as specified on the label. Do not allow to get into surface water, drains and ground water.

**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** Do not re-use empty containers. Rinsed packaging may be acceptable for landfill, otherwise incineration will be required in accordance with local regulations. If burned, stay out of smoke.

**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**

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.



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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.  
Crystalline quartz (respirable)

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

**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)**

Quartz (Silica, Crystalline) 14808-60-7





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**SECTION 16. OTHER INFORMATION**

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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: Updated for general editorial purposes. The following sections have been revised: Section 8: Exposure Controls / Personal Protection.

Revision Date: 06/21/2010

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