



**Material Safety Data Sheet**

**BAYLETON® FLO TURF AND ORNAMENTAL FUNGICIDE**

MSDS Number: 102000013850

MSDS Version 1.1

Revision Date: 06/13/2008

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

**Product Name** BAYLETON® FLO TURF AND ORNAMENTAL FUNGICIDE  
**MSDS Number** 102000013850  
**EPA Registration No.** 432-1445

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	43.00
Glycerine	56-81-5	

**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 breathing dust or spray mist. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before re-use.

**Physical State** liquid suspension opaque

**Appearance** brown

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

**Immediate Effects**

**Eye** Mild eye irritation. Do not get in eyes.

**Skin** Slight irritation. Harmful if absorbed through skin. Avoid contact with skin and clothing.

**Ingestion** Harmful if swallowed. Do not take internally.

**Inhalation** Do not breathe vapours or spray mist. Harmful if inhaled.



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**Chronic or Delayed Long-Term** This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic). This product or its components may have long term (chronic) health effects. This product or its components may have target organ effects.

**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** 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** > 100 °C / 212 °F  
No flash point - Determination conducted up to the boiling point.

**Suitable Extinguishing Media** Water, Carbon dioxide (CO2), Dry chemical, Foam

**Fire Fighting Instructions** Keep out of smoke. Fight fire from upwind position. Cool closed containers/ tanks exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.



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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal Precautions**      Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.
- Methods for Cleaning Up**      Keep in suitable, closed containers for disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Clean contaminated floors and objects thoroughly, observing environmental regulations.
- Additional Advice**              Use personal protective equipment. Do not allow product to contact vegetation.

**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 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 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. Wash thoroughly and put on clean clothing.
- Min/Max Storage Temperatures**              Recommended minimum transport/storage temperature: 0 °C / 32 °F  
Protect from freezing.

**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.  
  
Follow all label instructions. Train employees in safe use of the product.
- Eye/Face Protection**                      Safety glasses with side-shields  
or  
Goggles
- Hand Protection**                          Chemical resistant nitrile rubber gloves



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**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**

Glycerine	56-81-5	ACGIH	TWA	10 mg/m3
		OSHA Z1	PEL	5 mg/m3
		OSHA Z1	PEL	15 mg/m3
		OSHA Z1A	TWA	5 mg/m3
		OSHA Z1A	TWA	10 mg/m3
		TX ESL	ST ESL	50 ug/m3
Triadimefon	43121-43-3	TX ESL	AN ESL	5 ug/m3
		OES BCS*		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>	liquid suspension opaque
<b>pH</b>	approx. 6.7 (10 %) at 20 °C
<b>Density</b>	approx. 1.16 g/cm <sup>3</sup> at 20 °C
<b>Viscosity</b>	936 mPa.s

**SECTION 10. STABILITY AND REACTIVITY**

**Hazardous Reactions**       Stable under recommended storage conditions.

**SECTION 11. TOXICOLOGICAL INFORMATION**

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

**Acute Oral Toxicity**           female rat: LD50: 1,750 mg/kg  
(Up & Down Method)

**Acute Dermal Toxicity**       male/female combined rat: LD50: > 5,000 mg/kg



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**Acute Inhalation Toxicity** male/female combined rat: LC50: > 2.1 mg/l  
Exposure time: 4 h  
Determined in the form of a respirable aerosol.  
(actual)  
(highest dose tested; no deaths)

male/female combined rat: LC50: > 8.4 mg/l  
Exposure time: 1 h  
Determined in the form of a respirable aerosol.  
Extrapolated from the 4 hr LC50.  
(actual)

**Skin Irritation** rabbit: Slight irritation.

**Eye Irritation** rabbit: Mild eye irritation.

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

**Chronic Toxicity** Triadimefon affected the liver and/or thyroid (secondary effects) in chronic studies in rats and dogs.

#### Assessment Carcinogenicity

Triadimefon has been classified by EPA 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**  
None.
- NTP**  
None.
- IARC**  
None.
- OSHA**  
None.

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

DEVELOPMENTAL TOXICITY: Triadimefon is not considered a primary developmental toxicant in laboratory animals. Developmental effects were observed only at doses that caused maternal toxicity.

**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.



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**Mutagenicity** Triadimefon is not considered genotoxic based on a battery of in vitro and in vivo tests.

**SECTION 12. ECOLOGICAL INFORMATION**

**Environmental Precautions** 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** Follow container label instructions for disposal of wastes generated during use in compliance with the product label. 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. Triple rinse containers. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke.

**SECTION 14. TRANSPORT INFORMATION**

**TRANSPORTATION CLASSIFICATION:**  
Not regulated for shipment by any mode of transportation

**FREIGHT CLASSIFICATION:**  
Insecticides or Fungicides, N.O.I., other than poison

**SECTION 15. REGULATORY INFORMATION**

**EPA Registration No.** 432-1445

**US Federal Regulations**

**TSCA list**

Glycerine 56-81-5

**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 does not contain any substances known to the State of California to cause cancer.



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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
Glycerine	56-81-5	IL, MN, RI

**Canadian Regulations**

**Canadian Domestic Substance List**

Glycerine	56-81-5
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**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**SECTION 16. OTHER INFORMATION**

NFPA 704 (National Fire Protection Association):

Health - 2      Flammability - 1      Reactivity - 0      Others - none

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

Reason to Revise: Section 1: EPA Reg. Number.; Section 8: Exposure Limits

Revision Date: 06/13/2008

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