



## TARTAN® FUNGICIDE

Version 2.0 / USA  
102000013748

1/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product identifier

Trade name TARTAN® FUNGICIDE

Product code (UVP) 05810050

SDS Number 102000013748

EPA Registration No. 432-1446

#### Relevant identified uses of the substance or mixture and uses advised against

Use Fungicide

Restrictions on use See product label for restrictions.

#### Information on manufacturer

Bayer Environmental Science  
2 T.W. Alexander Drive  
Research Triangle PK, NC 27709  
United States

#### Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577

#### Product Information Telephone Number

SDS Information or Request [SDSINFO.BCS-NA@bayer.com](mailto:SDSINFO.BCS-NA@bayer.com)

### SECTION 2: HAZARDS IDENTIFICATION

#### Classification in accordance with regulation HCS 29CFR §1910.1200

Acute toxicity (Inhalation): Category 4

Reproductive toxicity : Category 2



Signal word: Warning

#### Hazard statements

Harmful if inhaled.

Suspected of damaging fertility or the unborn child.

#### Precautionary statements

Avoid breathing mist and spray.

Use only outdoors or in a well-ventilated area.



## TARTAN® FUNGICIDE

Version 2.0 / USA  
102000013748

2/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.  
IF exposed or concerned: Get medical advice/ attention.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER/doctor/physician if you feel unwell.  
Store locked up.  
Dispose of contents/container in accordance with local regulation.

### Other hazards

No other hazards known.

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Triadimefon	43121-43-3	20.90
Trifloxystrobin	141517-21-7	4.20
Glycerine	56-81-5	10.70

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## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Inhalation</b>	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.
<b>Skin contact</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>Eye contact</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>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 unconscious person. Do not leave victim unattended.

### Most important symptoms and effects, both acute and delayed

**Symptoms** To date no symptoms are known.

### Indication of any immediate medical attention and special treatment needed

**Treatment** Appropriate supportive and symptomatic treatment as indicated by the



## TARTAN® FUNGICIDE

Version 2.0 / USA  
102000013748

3/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

patient's condition is recommended. There is no specific antidote.

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### SECTION 5: FIREFIGHTING MEASURES

#### Extinguishing media

**Suitable** Carbon dioxide (CO<sub>2</sub>), Dry chemical, Foam, Water spray

**Unsuitable** None known.

**Special hazards arising from the substance or mixture** Dangerous gases are evolved in the event of a fire.

#### Advice for firefighters

**Special protective equipment for fire-fighters** Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

**Further information** 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.

**Flash point** > 93.3 °C

**Autoignition temperature** no data available

**Lower explosion limit** no data available

**Upper explosion limit** no data available

**Explosivity** not applicable

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

**Precautions** Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

#### Methods and materials for containment and cleaning up

**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, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations.

**Additional advice** Do not allow to enter soil, waterways or waste water canal.

**Reference to other sections** Information regarding safe handling, see section 7.  
Information regarding personal protective equipment, see section 8.  
Information regarding waste disposal, see section 13.

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**TARTAN® FUNGICIDE**

Version 2.0 / USA  
102000013748

4/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

**SECTION 7: HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** 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.

**Advice on protection against fire and explosion** Keep away from heat and sources of ignition.

**Hygiene measures** Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.  
Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

**Conditions for safe storage, including any incompatibilities**

**Requirements for storage areas and containers** 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.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Triadimefon	43121-43-3	0.7 mg/m3 (TWA)		OES BCS*
Triadimefon	43121-43-3	100ug/m3 (ST ESL)	07 2011	TX ESL
Triadimefon	43121-43-3	10ug/m3 (AN ESL)	07 2011	TX ESL
Trifloxystrobin	141517-21-7	2.7 mg/m3 (TWA)		OES BCS*
Glycerine (Total dust.)	56-81-5	15 mg/m3 (PEL)	02 2006	OSHA Z1
Glycerine (Respirable fraction.)	56-81-5	5 mg/m3 (PEL)	02 2006	OSHA Z1
Glycerine (Respirable fraction.)	56-81-5	5 mg/m3 (TWA)	1989	OSHA Z1A
Glycerine (Total dust.)	56-81-5	10 mg/m3 (TWA)	1989	OSHA Z1A
Glycerine (Total dust and mist.)	56-81-5	10 mg/m3 (TWA)	06 2008	TN OEL
Glycerine (Respirable fraction and dust or fume.)	56-81-5	5 mg/m3 (TWA)	06 2008	TN OEL
Glycerine	56-81-5	50ug/m3	02 2013	TX ESL



**TARTAN® FUNGICIDE**

Version 2.0 / USA  
102000013748

5/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

(Particulate.)		(ST ESL)		
Glycerine (Particulate.)	56-81-5	5ug/m3 (AN ESL)	02 2013	TX ESL
Glycerine (Vapor.)	56-81-5	100ug/m3 (AN ESL)	02 2013	TX ESL
Glycerine (Vapor.)	56-81-5	1000ug/m3 (ST ESL)	02 2013	TX ESL
Pyrogenic (fumed) amorphous silica (Particulate.)	112945-52-5	2ug/m3 (AN ESL)	02 2013	TX ESL
Pyrogenic (fumed) amorphous silica (Particulate.)	112945-52-5	27ug/m3 (ST ESL)	02 2013	TX ESL

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

**Exposure controls**

**Personal protective equipment**

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

**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.

**Hand protection**

Chemical resistant nitrile rubber gloves

**Eye protection**

Safety glasses with side-shields

**Skin and body protection**

Wear long-sleeved shirt and long pants and shoes plus socks.

**General protective measures**

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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	green
<b>Physical State</b>	liquid viscous
<b>Odor</b>	slight
<b>Odour Threshold</b>	no data available
<b>pH</b>	6.5 - 7.5 at 10 % (25 °C) aqueous suspension
<b>Vapor Pressure</b>	no data available



## TARTAN® FUNGICIDE

Version 2.0 / USA  
102000013748

6/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

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<b>Vapor Density (Air = 1)</b>	no data available
<b>Density</b>	1.15 g/cm <sup>3</sup> at 20 °C
<b>Boiling Point</b>	no data available
<b>Melting / Freezing Point</b>	no data available
<b>Water solubility</b>	dispersible
<b>Minimum Ignition Energy</b>	not applicable
<b>Decomposition temperature</b>	no data available
<b>Partition coefficient: n-octanol/water</b>	no data available
<b>Viscosity</b>	600 - 950 mPa.s
<b>Flash point</b>	> 93.3 °C
<b>Autoignition temperature</b>	no data available
<b>Lower explosion limit</b>	no data available
<b>Upper explosion limit</b>	no data available
<b>Explosivity</b>	not applicable

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### SECTION 10: STABILITY AND REACTIVITY

#### Reactivity

<b>Thermal decomposition</b>	no data available
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	freezing
<b>Incompatible materials</b>	no data available
<b>Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.

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### SECTION 11: TOXICOLOGICAL INFORMATION

<b>Exposure routes</b>	Ingestion, Eye contact, Skin contact
<b>Immediate Effects</b>	
<b>Eye</b>	Moderate eye irritation.
<b>Ingestion</b>	Harmful if swallowed.



## TARTAN® FUNGICIDE

Version 2.0 / USA  
102000013748

7/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

### Information on toxicological effects

<b>Acute oral toxicity</b>	LD50 (female rat) 3,129 mg/kg
<b>Acute inhalation toxicity</b>	LC50 (male/female combined rat) > 2.1 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol. No deaths  LC50 (male/female combined rat) > 8.4 mg/l Exposure time: 1 h Determined in the form of a respirable aerosol. Extrapolated from the 4 hr LC50.
<b>Acute dermal toxicity</b>	LD50 (male/female combined rat) > 5,000 mg/kg
<b>Skin irritation</b>	No skin irritation (rabbit)
<b>Eye irritation</b>	Mild eye irritation. (rabbit)
<b>Sensitisation</b>	Non-sensitizing. (guinea pig)

### Assessment repeated dose toxicity

Triadimefon did not cause specific target organ toxicity in experimental animal studies.  
Trifloxystrobin did not cause specific target organ toxicity in experimental animal studies.

### Assessment Mutagenicity

Triadimefon was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.  
Trifloxystrobin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

### Assessment Carcinogenicity

Triadimefon was not carcinogenic in a lifetime feeding study in rats. Triadimefon caused an increased incidence of tumours in mice in the following organ(s): liver. The mechanism that triggers these tumours is not relevant to humans.  
Trifloxystrobin was not carcinogenic in lifetime feeding studies in rats and mice.

### ACGIH

None.

### NTP

None.

### IARC

None.

### OSHA

None.

### Assessment toxicity to reproduction

Triadimefon caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. Triadimefon caused reduced fertility, a reduced pup survival.  
Trifloxystrobin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Trifloxystrobin is related to parental toxicity.



## TARTAN® FUNGICIDE

Version 2.0 / USA  
102000013748

8/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

### Assessment developmental toxicity

Triadimefon caused developmental toxicity in only at dose levels toxic to the dams. Triadimefon caused an increased incidence of non-specific malformations.

Trifloxystrobin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Trifloxystrobin are related to maternal toxicity.

### Further information

Only acute toxicity studies have been performed on the formulated product.  
The non-acute information pertains to the active ingredient(s).

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## SECTION 12: ECOLOGICAL INFORMATION

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 0.015 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient trifloxystrobin.
	LC50 (Oncorhynchus mykiss (rainbow trout)) 4.08 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient triadimefon.
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) 0.016 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient trifloxystrobin.
	EC50 (Daphnia magna (Water flea)) 7.16 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient triadimefon.
<b>Toxicity to aquatic plants</b>	IC50 (Desmodosmus subspicatus) 0.0053 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient trifloxystrobin.
	IC50 (Pseudokirchneriella subcapitata) 2.01 mg/l Growth rate; Exposure time: 120 h The value mentioned relates to the active ingredient triadimefon.
<b>Biodegradability</b>	Triadimefon: ; not rapidly biodegradable Trifloxystrobin: ; not rapidly biodegradable
<b>Koc</b>	Triadimefon: Koc: 150 - 510 Trifloxystrobin: Koc: 2377
<b>Bioaccumulation</b>	Triadimefon: Bioconcentration factor (BCF) 31; Does not bioaccumulate. Trifloxystrobin: Bioconcentration factor (BCF) 431; Does not bioaccumulate.
<b>Mobility in soil</b>	Triadimefon: Moderately mobile in soils Trifloxystrobin: Slightly mobile in soils
<b>Environmental precautions</b>	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.





## TARTAN® FUNGICIDE

Version 2.0 / USA  
102000013748

9/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites.  
Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.  
Do not apply when weather conditions favor runoff or drift.  
Apply this product as specified on the label.  
Do not allow to get into surface water, drains and ground water.

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### SECTION 13: DISPOSAL CONSIDERATIONS

#### Waste treatment methods

##### Product

Dispose in accordance with all local, state/provincial and federal regulations.  
Follow container label instructions for disposal of wastes generated during use in compliance with the product label.

##### Contaminated packaging

Triple rinse containers.  
Puncture container to avoid re-use.  
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.

##### 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.

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### SECTION 14: TRANSPORT INFORMATION

#### 49CFR

Not dangerous goods / not hazardous material

#### IMDG

UN number **3082**  
Class **9**  
Packaging group **III**  
Marine pollutant **YES**  
Proper shipping name **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLOXYSTROBIN SOLUTION)**

#### IATA

UN number **3082**  
Class **9**  
Packaging group **III**  
Environm. Hazardous Mark **YES**  
Proper shipping name **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLOXYSTROBIN SOLUTION )**



**TARTAN® FUNGICIDE**

Version 2.0 / USA  
102000013748

10/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

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

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**SECTION 15: REGULATORY INFORMATION**

**EPA Registration No.** 432-1446

**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 25,000lbs

**US States Regulatory Reporting**

**CA Prop65**

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

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

**US State Right-To-Know Ingredients**

Triadimefon	43121-43-3	NJ
Glycerine	56-81-5	MN

**Canadian Regulations**

**Canadian Domestic Substance List**

Glycerine 56-81-5

**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
Glycerine	56-81-5



## TARTAN® FUNGICIDE

Version 2.0 / USA  
102000013748

11/11  
Revision Date: 11/25/2014  
Print Date: 01/05/2017

---

### EPA/FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

**Signal word:** Caution!

**Hazard statements:** Harmful if swallowed.  
Moderate eye irritation.  
Avoid contact with skin, eyes and clothing.  
Wash thoroughly with soap and water after handling.

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## SECTION 16: OTHER INFORMATION

### NFPA 704 (National Fire Protection Association):

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

### HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1      Flammability - 1      Physical Hazard - 0      PPE -

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

**Reason for Revision:** Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

**Revision Date:** 11/25/2014

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