



**Material Safety Data Sheet**

**GEM™ 500 SC FUNGICIDE**

MSDS Number: 102000013006

MSDS Version 3.0

Revision Date: 10/05/2010

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

**Product name** GEM™ 500 SC FUNGICIDE  
**MSDS Number** 102000013006  
**EPA Registration No.** 264-826

Bayer CropScience  
 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: 1-866-99BAYER (1-866-992-2937)

**SECTION 2. HAZARDS IDENTIFICATION**

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

**Emergency Overview** Caution! Hazard to humans and domestic animals. Harmful if inhaled. Avoid inhalation of vapour or mist. Avoid contact with skin and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly with soap and water after handling.

**Physical State** suspension liquid

**Odor** chalk-like

**Appearance** off-white

**Exposure routes** Eye contact, Skin contact, Ingestion, Vapor/mist inhalation

**Immediate Effects**

**Eye** No eye irritation

**Skin** slight irritation Avoid contact with skin and clothing.

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

**Chronic or Delayed Long-Term** This product or its components may have target organ effects.

**Potential Environmental Effect** Toxic to fish and aquatic invertebrates.



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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Trifloxystrobin	141517-21-7	42.60
Trade Secret Ingredient(s)		5.25

**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 unconscious person. Do not leave victim unattended.
<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>Notes to physician Treatment</b>	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Flash point</b>	> 100 °C / 212 °F
<b>Fire and Explosion Hazards</b>	In the event of fire the following may be released: Hydrogen cyanide (hydrocyanic acid) Carbon monoxide (CO) nitrogen oxides (NOx) Hydrogen fluoride
<b>Suitable extinguishing media</b>	Water spray, Carbon dioxide (CO2), Foam, Sand



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**Fire Fighting Instructions** Cool closed containers exposed to fire with water spray. Keep out of smoke. Fight fire from upwind position. 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.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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

**Methods for cleaning up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**Additional advice** Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

**SECTION 7. HANDLING AND STORAGE**

**Handling procedures** For personal protection see section 8. 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.

Keep away from heat and sources of ignition.

**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. 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. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

**Min/Max Storage Temperatures** Recommended minimum transport/storage temperature: -10 °C / 14 °F  
Recommended maximum transport/storage temperature: 40 °C / 104 °F



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**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.

**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 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** This product contains material which are Trade Secret and may have Occupational Exposure Limits. If more information is required, call the product information number listed in Section 1.

Trifloxystrobin	141517-21-7	OES BCS*	TWA	2.7 mg/m3
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\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	off-white
<b>Physical State</b>	suspension liquid
<b>Odor</b>	chalk-like
<b>pH</b>	6.5 - 8.0 (100 %) at 20 °C
<b>Density</b>	1.14 g/cm <sup>3</sup> at 20 °C
<b>Water solubility</b>	miscible
<b>Viscosity</b>	500 - 1,000 mPa.s

**SECTION 10. STABILITY AND REACTIVITY**

**Conditions to avoid** Heat, flames and sparks.



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**Hazardous reactions** No hazardous reactions when stored and handled according to prescribed instructions.

## SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity studies have not been performed on this product as formulated. The acute toxicity data provided has been bridged from a similar 500 SC formulation containing the active ingredient, trifloxystrobin. The non-acute information pertains to the technical-grade active ingredient.

**Acute oral toxicity** male/female combined rat: LD50: > 3,000 mg/kg

**Acute dermal toxicity** male/female combined rat: LD50: > 4,000 mg/kg

**Acute inhalation toxicity** male/female combined rat: LC50: > 1.994 mg/l  
Exposure time: 4 h  
Highest attainable concentration.  
Determined in the form of liquid aerosol.

male/female combined rat: LC50: > 7.976 mg/l  
Exposure time: 1 h  
Determined in the form of liquid aerosol.  
Extrapolated from the 4 hr LC50.

**Skin irritation** rabbit: slight irritation  
Test conducted with a similar formulation.

**Eye irritation** rabbit: No eye irritation  
Test conducted with a similar formulation.

**Sensitisation** guinea pig: Non-sensitizing. Test conducted with a similar formulation.

**Chronic toxicity** Trifloxystrobin caused liver effects in chronic studies in mice, rats and/or dogs.

### Assessment Carcinogenicity

Trifloxystrobin was not carcinogenic in lifetime feeding studies in rats and mice.

#### ACGIH

None.

#### NTP

None.

#### IARC

None.

#### OSHA

None.

**Reproductive toxicity** REPRODUCTION: Trifloxystrobin is not considered a primary reproductive toxicant in rats.

DEVELOPMENTAL TOXICITY: Trifloxystrobin is not considered a primary



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developmental toxicant in laboratory animals. Developmental effects were observed only at doses that caused maternal toxicity.

**Neurotoxicity** Trifloxystrobin is not a primary neurotoxicant based on an acute (oral gavage) neurotoxicity screening study in rats.

**Mutagenicity** Trifloxystrobin was not considered mutagenic or genotoxic based on in vitro and in vivo tests.

**SECTION 12. ECOLOGICAL INFORMATION**

**Toxicity to fish** Rainbow trout (*Oncorhynchus mykiss*)  
LC50: 0.035 mg/l  
Exposure time: 96 h

**Toxicity to aquatic plants** *Pseudokirchneriella subcapitata*  
EC50: 0.034 mg/l  
Exposure time: 72 h

**Acute Toxicity to Aquatic Invertebrates** Water flea (*Daphnia magna*)  
EC50: 0.087 mg/l  
Exposure time: 48 h

**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. 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. Apply this product as specified on the label.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**General Disposal Guidance** Pesticide wastes may be toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Container Disposal** 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**

**CFR** Not dangerous goods / not hazardous material

**IMDG**

UN-Number **3082**  
 Class 9  
 Packaging group III  
 Marine pollutant Marine Pollutant  
 Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLOXYSTROBIN SOLUTION)

**IATA**

UN-Number **3082**  
 Class 9  
 Packaging group III  
 Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLOXYSTROBIN SOLUTION )

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.

**SECTION 15. REGULATORY INFORMATION**

This product contains material(s) which are Trade Secret and are on various Regulatory Lists. These material(s) are not listed below. If more information is required, call the product information number listed in Section 1.

**EPA Registration No.** 264-826

**US Federal Regulations**

**TSCA list**

None.

**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**

**CA Prop65**

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

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



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

None.

**Canadian Regulations**

**Canadian Domestic Substance List**

None.

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

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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

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: The following sections have been revised: Section 14: Transport Information.

Revision Date: 10/05/2010

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