



Material Safety Data Sheet
GEM 500 SC FUNGICIDE

MSDS Number: 102000007888
 MSDS Version 1.0
 Revision Date: 04/15/2005

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name GEM 500 SC FUNGICIDE
MSDS Number 102000007888
Product Use For control of certain diseases in tree nuts, citrus, peanuts, potatoes, rice, stone fruit and sugar beets.

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. 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 3. 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
Odor chalk-like
Appearance white to beige
Routes of Exposure Eye contact, Skin contact, Ingestion, Vapor/mist inhalation
Immediate Effects
Eye non-irritant
Skin slight irritation



Material Safety Data Sheet
GEM 500 SC FUNGICIDE

MSDS Number: 102000007888
 MSDS Version 1.0

Inhalation Harmful if inhaled.

SECTION 4. FIRST AID MEASURES

General	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.
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.
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 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 Method: DIN EN ISO 2719 (2003-09)
Fire and Explosion Hazards	In the event of fire the following can be released: nitrous gases (NOx) hydrogen cyanide (hydrocyanic acid) carbon monoxide (CO) hydrogen fluoride
Suitable Extinguishing Media	water spray, carbon dioxide (CO2), foam, sand
Fire Fighting Instructions	Contain the spread of the fire-fighting media. 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.



Material Safety Data Sheet
GEM 500 SC FUNGICIDE

MSDS Number: 102000007888
 MSDS Version 1.0

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal Precautions** Avoid contact with spilled product or contaminated surfaces. Wear personal protective equipment. Unprotected persons must be kept away.

- Methods for Cleaning Up** Take up with absorbent material (e.g. sand, earth or a proprietary absorbent material). Clean contaminated floors and objects thoroughly, observing environmental regulations. Pack spilled material in suitable containers for recovery or disposal.

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

SECTION 7. HANDLING AND STORAGE

- Handling Procedures** Use the recommended equipment when handling this product (see Section 8). 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.

- Work/Hygienic Procedures** Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing.

 Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

 Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

 Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Shower and change into street clothes before leaving the work site.

- Min/Max Storage Temperatures** Do not transport or store below -10 °C / 14 °F
 Do not transport or store above 40 °C / 104 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- General Protection** Educate and train employees in safe use of the product. Eye wash facility and safety shower should be available. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water.



Material Safety Data Sheet
GEM 500 SC FUNGICIDE

MSDS Number: 102000007888
 MSDS Version 1.0

Engineering Controls	Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.
Eye/Face Protection	Safety glasses with side-shields
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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white to beige
Physical State	suspension
Odor	chalk-like
pH	6.5 - 8.0
Density	1.144 g/cm ³ at 20 °C
Water Solubility	miscible

SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid	Exposure to extreme heat. Heat, flames and sparks.
Hazardous Reactions	No hazardous reactions when stored and handled according to prescribed instructions. Stable under recommended storage conditions.

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.



Material Safety Data Sheet
GEM 500 SC FUNGICIDE

MSDS Number: 102000007888
MSDS Version 1.0

Acute Oral Toxicity	male/female rat: LD50: > 3,000 mg/kg
Acute Dermal Toxicity	male/female rat: LD50: > 4,000 mg/kg
Acute Inhalation Toxicity	male/female rat: LC50: > 1.994 mg/l Exposure time: 4 h Maximum attainable concentration. Determined in the form of liquid aerosol. male/female 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 irritant effect - does not require labelling Test conducted with a similar formulation.
Eye Irritation	rabbit: non-irritant Test conducted with a similar formulation.
Sensitization	guinea pig: Non-sensitizing Test conducted with a similar formulation.
Chronic Toxicity	The major organ affected from long-term exposure to trifloxystrobin in chronic studies in mice and dogs was the liver.
Assessment Carcinogenicity	Trifloxystrobin is not carcinogenic based on oncogenicity studies in rats and mice.
ACGIH	None.
NTP	None.
IARC	None.
OSHA	None.
Reproductive & Developmental Toxicity	REPRODUCTION: Trifloxystrobin is not a primary reproductive toxicant based on a two-generation reproduction study in rats. DEVELOPMENTAL TOXICITY: Trifloxystrobin is not a primary developmental toxicant in rats and rabbits. 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 is not considered genotoxic based on in vitro and in vivo studies.



Material Safety Data Sheet
GEM 500 SC FUNGICIDE

MSDS Number: 102000007888
 MSDS Version 1.0

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 This pesticide is toxic to fish and aquatic invertebrates. 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 fish/aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

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. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning.

SECTION 14. TRANSPORT INFORMATION

TRANSPORTATION CLASSIFICATION:
 Not regulated for all modes of transportation

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



Material Safety Data Sheet
GEM 500 SC FUNGICIDE

MSDS Number: 102000007888
MSDS Version 1.0

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.

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.

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.

SECTION 16. OTHER INFORMATION

NFPA

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: New MSDS

Bayer CropScience



Material Safety Data Sheet
GEM 500 SC FUNGICIDE

MSDS Number: 102000007888
MSDS Version 1.0

Revision Date: 04/15/2005

This information is provided in good faith but without express or implied warranty. Buyer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.