

**Safety Data Sheet****SERENADE® OPTI™**

SDS Number: 102000028243

SDS Version 1.0

Revision Date: 03/18/2015

Print Date: 03/18/2015

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name	SERENADE® OPTI™
SDS Number	102000028243
Product code (UVP)	80921837
PCP Registration No.	31666
Product Use	Fungicide, Bactericide

Bayer CropScience Inc
#200, 160 Quarry Park Blvd, SE
Calgary, Alberta T2C 3G3
Canada

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-888-283-6847

SECTION 2. HAZARDS IDENTIFICATION

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

Emergency Overview

Caution! Moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. 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.

Physical State	powder
Odor	sweet earthy
Appearance	brown
Exposure routes	Eye contact, Skin contact, Inhalation
Immediate Effects	
Eye	May cause eye irritation.
Skin	Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
Inhalation	Mists may cause respiratory tract irritation.

**Safety Data Sheet****SERENADE® OPTI™**

SDS Number: 102000028243

SDS Version 1.0

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Bacillus subtilis, strain QST 713		26.20

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	
Signs and Symptoms	To date no symptoms are known.
Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	not applicable
Autoignition temperature	no data available
Lower Flammability Limit	not applicable
Upper Flammability Limit	not applicable
Explosiveness	no data available



Safety Data Sheet

SERENADE® OPTI™

SDS Number: 102000028243

SDS Version 1.0

Fire and Explosion Hazards	Dangerous gases are evolved in the event of a fire.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	High volume water jet
Fire Fighting Instructions	<p>Use appropriate extinguishing media for material that is supplying fuel.</p> <p>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.</p> <p>Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.</p>

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
Methods for cleaning up	Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional advice	Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

SECTION 7. HANDLING AND STORAGE

Handling procedures	Ensure adequate ventilation. Handle and open container in a manner as to prevent spillage.
Storing Procedures	<p>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.</p> <p>Keep away from direct sunlight. Protect from freezing.</p> <p>Keep away from food, drink and animal feedingstuffs.</p>
Work/Hygienic	Remove Personal Protective Equipment (PPE) immediately after handling this

**Safety Data Sheet****SERENADE® OPTI™**

SDS Number: 102000028243

SDS Version 1.0

Procedures

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

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.
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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	brown
Physical State	powder
Odor	sweet earthy
pH	4.8 - 8.0 (1 %)
Vapor Pressure	no data available
Vapor Density (Air = 1)	no data available
Bulk density	0.40 - 0.61 g/ml (loose)
Evaporation rate	not applicable
Boiling Point	not applicable
Melting / Freezing Point	not applicable
Water solubility	dispersible

**Safety Data Sheet****SERENADE® OPTI™**

SDS Number: 102000028243

SDS Version 1.0

Minimum Ignition Energy no data available**Decomposition temperature** no data available**Partition coefficient: n-octanol/water** not applicable**Viscosity** not applicable**SECTION 10. STABILITY AND REACTIVITY****Conditions to avoid** freezing
Extremes of temperature and direct sunlight.**Incompatibility** no data available**Hazardous Decomposition Products** No decomposition products expected under normal conditions of use.**Hazardous reactions** No dangerous reaction known under conditions of normal use.**Chemical Stability** Stable under recommended storage conditions.**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute toxicity studies have not been performed on this formulation. Acute data provided is from a similar formulation.

Acute oral toxicity rat: LD50: > 5,000 mg/kg**Acute dermal toxicity** rabbit: LD50: > 5,050 mg/kg**Acute inhalation toxicity** rat: LC50: 2.15 mg/l
Determined in the form of liquid aerosol.
Highest attainable concentration.
No deaths**Skin irritation** rabbit: Slight irritation**Eye irritation** rabbit: Moderate eye irritation.**Sensitisation** guinea pig: Sensitising**Chronic toxicity** Bacillus subtilis did not cause specific target organ toxicity in experimental animal studies.**Assessment carcinogenicity**

**Safety Data Sheet****SERENADE® OPTI™**

SDS Number: 102000028243

SDS Version 1.0

Bacillus subtilis: Test not required for microorganisms.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Reproductive toxicity Bacillus subtilis: Test not required for microorganisms.**Developmental Toxicity** Bacillus subtilis: Test not required for microorganisms.**Mutagenicity** Bacillus subtilis: Test not required for microorganisms.**SECTION 12. ECOLOGICAL INFORMATION**

Toxicity to fish Oncorhynchus mykiss (rainbow trout)
LC50: 162 mg/l
Exposure time: 30 d
The value mentioned relates to the active ingredient.

Toxicity to aquatic plants Scenedesmus subspicatus
NOEC: ≥ 100 mg/l
The value mentioned relates to the active ingredient.

Scenedesmus subspicatus
LOEC: > 100 mg/l
The value mentioned relates to the active ingredient.

Acute Toxicity to Aquatic Invertebrates Daphnia magna (Water flea)
LC50: 108 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient.

Environmental precautions Do not allow to get into surface water, drains and ground water. 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.

Ecological Information No other effects to be mentioned.



Safety Data Sheet

SERENADE® OPTI™

SDS Number: 102000028243

SDS Version 1.0

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines. Never place unused product down any indoor or outdoor drain.

Container Disposal Consult state and local regulations regarding the proper disposal of container. Follow advice on product label and/or leaflet.

SECTION 14. TRANSPORT INFORMATION

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

SECTION 15. REGULATORY INFORMATION

PCP Registration No. 31666

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



Safety Data Sheet

SERENADE® OPTI™

SDS Number: 102000028243

SDS Version 1.0

None.

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1

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: New Safety Data Sheet.

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

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