



**SERENADE® OPTI**

Version 1.0 / USA  
102000028243

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Revision Date: 02/27/2015  
Print Date: 01/04/2017

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

**Product identifier**

**Trade name** SERENADE® OPTI

**Product code (UVP)** 80921837

**SDS Number** 102000028243

**EPA Registration No.** 264-1160

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

**Use** Fungicide, Bactericide

**Restrictions on use** See product label for restrictions.

**Information on manufacturer**

Bayer CropScience  
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

**SECTION 2: HAZARDS IDENTIFICATION**

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

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

**Other hazards**

Micro-organisms may have the potential to provoke sensitising reactions.

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

Hazardous Component Name	CAS-No.	Concentration % by weight
Bacillus subtilis, strain QST 713		26.2



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

### SECTION 5: FIREFIGHTING MEASURES

#### Extinguishing media

<b>Suitable</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable</b>	High volume water jet

**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** Use appropriate extinguishing media for material that is supplying fuel.  
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.



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<b>Flash point</b>	not applicable
<b>Autoignition temperature</b>	no data available
<b>Lower explosion limit</b>	not applicable
<b>Upper explosion limit</b>	not applicable
<b>Explosivity</b>	no data available

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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** 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.

**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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## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Ensure adequate ventilation. Handle and open container in a manner as to prevent spillage.

**Hygiene measures** Remove Personal Protective Equipment (PPE) immediately after handling this 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.

### 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.  
Keep away from direct sunlight. Protect from freezing.



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**Advice on common storage** Keep away from food, drink and animal feedingstuffs.

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

**Control parameters**

No control parameters known.

**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.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	brown
<b>Physical State</b>	powder
<b>Odor</b>	sweet earthy
<b>Odour Threshold</b>	no data available
<b>pH</b>	4.8 - 8.0 at 1 %
<b>Vapor Pressure</b>	no data available
<b>Vapor Density (Air = 1)</b>	no data available
<b>Bulk density</b>	0.40 - 0.61 g/ml (loose)
<b>Evapouration rate</b>	not applicable
<b>Boiling Point</b>	not applicable
<b>Melting / Freezing Point</b>	not applicable
<b>Water solubility</b>	dispersible
<b>Minimum Ignition Energy</b>	no data available



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<b>Decomposition temperature</b>	no data available
<b>Partition coefficient: n-octanol/water</b>	not applicable
<b>Viscosity</b>	not applicable
<b>Flash point</b>	not applicable
<b>Autoignition temperature</b>	no data available
<b>Lower explosion limit</b>	not applicable
<b>Upper explosion limit</b>	not applicable
<b>Explosivity</b>	no data available

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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 Extremes of temperature and direct sunlight.
<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>	Eye contact, Skin contact, Inhalation
<b>Immediate Effects</b>	
<b>Eye</b>	May cause eye irritation.
<b>Skin</b>	Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
<b>Inhalation</b>	Mists may cause respiratory tract irritation.
<b>Information on toxicological effects</b>	
<b>Acute oral toxicity</b>	LD50 (rat) > 5,000 mg/kg



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**Acute inhalation toxicity** LC50 (rat) 2.15 mg/l  
Determined in the form of liquid aerosol.  
Highest attainable concentration.  
No deaths

**Acute dermal toxicity** LD50 (rabbit) > 5,050 mg/kg

**Skin irritation** Slight irritation (rabbit)

**Eye irritation** Moderate eye irritation. (rabbit)

**Sensitisation** Sensitising (guinea pig)

**Assessment repeated dose toxicity**

Bacillus subtilis did not cause specific target organ toxicity in experimental animal studies.

**Assessment Mutagenicity**

Bacillus subtilis: Test not required for microorganisms.

**Assessment Carcinogenicity**

Bacillus subtilis: Test not required for microorganisms.

**ACGIH**

None.

**NTP**

None.

**IARC**

None.

**OSHA**

None.

**Assessment toxicity to reproduction**

Bacillus subtilis: Test not required for microorganisms.

**Assessment developmental toxicity**

Bacillus subtilis: Test not required for microorganisms.

**Further information**

Acute toxicity studies have not been performed on this product as formulated.  
Micro-organisms may have the potential to provoke skin and respiratory sensitisation.

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**SECTION 12: ECOLOGICAL INFORMATION**

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

**Toxicity to aquatic** LC50 (Daphnia magna (Water flea)) 108 mg/l



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<b>invertebrates</b>	Exposure time: 48 h The value mentioned relates to the active ingredient.
<b>Toxicity to aquatic plants</b>	NOEC ( <i>Scenedesmus subspicatus</i> ) $\geq$ 100 mg/l The value mentioned relates to the active ingredient.  LOEC ( <i>Scenedesmus subspicatus</i> ) > 100 mg/l The value mentioned relates to the active ingredient.
<b>Biodegradability</b>	<i>Bacillus subtilis</i> ; ; Evaluation of biodegradability is not relevant for micro-organisms.
<b>Bioaccumulation</b>	<i>Bacillus subtilis</i> ; ; Evaluation of bioaccumulation is not relevant for micro-organisms.
<b>Mobility in soil</b>	<i>Bacillus subtilis</i> ; Evaluation of mobility in soil is not relevant for micro-organisms.
<b>Additional ecological information</b>	No other effects to be mentioned.
<b>Environmental precautions</b>	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.

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**SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

<b>Product</b>	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.
<b>Contaminated packaging</b>	Consult state and local regulations regarding the proper disposal of container. Follow advice on product label and/or leaflet.
<b>RCRA Information</b>	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**

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

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**SECTION 15: REGULATORY INFORMATION**

**EPA Registration No.** 264-1160

**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.

**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:





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**Signal word:**

Caution!

**Hazard statements:**

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.

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**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.

**Revision Date:** 02/27/2015

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