



SERENADE SC 12X1L BOT PH

Version 2 / RP
102000027846

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

1.1 Product identifier

Trade name SERENADE SC 12X1L BOT PH
Product code (UVP) 80924771

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

Use Fungicide
Restrictions on use See product label for restrictions.

1.3 Details of the supplier of the safety data sheet

Company Bayer CropScience, Inc.
3/F Bayer House
Canlubang Industrial Estate
Calamba, Laguna
Philippines

Telephone +63 2 226-4888

Telefax +63 2 450-5474

1.4 Emergency telephone no.

Emergency telephone no. Bayer CropScience, Inc.
+63 2 226-4915 (24-Hour Emergency Assistance)

National Poison Management and Control Center
Tel. No. +63 2 524-1078, +63 2 567-2057
Mobile No. +63922-8961541 Fax No. +63 2 526-0062

Southern Philippines Medical Center (SPMC)
+63 2 227-2731

Global Incident Response Hotline (24h) +1 (760) 476-3964 (Company 3E for Bayer AG, Crop Science Division)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Not classified, the classification criteria are not met.

2.2 Label elements

|| Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

|| No hazard label for supply/use required.

2.3 Other hazards

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures****Chemical nature**Suspension concentrate (=flowable concentrate)(SC)
Bacillus subtilis strain QST 713: $\geq 1.0E+09$ CFU/g**Hazardous components**

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification	Conc. [%]
		REGULATION (EC) No 1272/2008	
Bacillus subtilis strain QST 713		Not classified	1.34

Further information

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures**

General advice	Move out of dangerous area. Victim to lie down in the recovery position, cover and keep him warm.
Inhalation	Move to fresh air. Keep patient warm and at rest. If symptoms persist, call a physician.
Skin contact	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.
Eye contact	Wash off immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed**Symptoms** No symptoms known or expected.**4.3 Indication of any immediate medical attention and special treatment needed****Treatment** Treat symptomatically. There is no specific antidote.



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SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable High volume water jet

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

5.3 Advice for firefighters

Special protective equipment for firefighters In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions Avoid contact with spilled product or contaminated surfaces. Ensure adequate ventilation. Use personal protective equipment.

6.2 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.

6.3 Methods and materials for containment and cleaning up

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. Clean with disinfectants.

Additional advice Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.

6.4 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.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice.

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Advice on protection against fire and explosion	No special precautions required.
Hygiene measures	Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Wash thoroughly with soap and water after handling. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).
7.2 Conditions for safe storage, including any incompatibilities	
Requirements for storage areas and containers	Store in a place accessible by authorized persons only. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Protect from frost.
Advice on common storage	Keep away from food, drink and animal feedingstuffs.
Suitable materials	HDPE (high density polyethylene)
7.3 Specific end use(s)	Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Bacillus subtilis strain QST 713		20,000,000 CFU/m ³		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

8.2 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	Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance. Wear respirator with a particle filter mask (protection factor 20) conforming to European Norm EN149FFP3 or EN140P3 or equivalent.
Eye protection	Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
Skin and body protection	Wear standard coveralls and Category 3 Type 5 suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently. If there is a risk of significant exposure, consider a higher protective type suit.



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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	suspension
Colour	light brown
Odour	sweet, earthy
Odour Threshold	No data available
pH	5.2 - 5.4 (100 %) (23 °C)
Boiling point/boiling range	>= 100 °C
Minimum ignition energy	Not applicable
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Density	ca. 1.05 g/cm ³ (20 °C)
Water solubility	dispersible
Partition coefficient: n-octanol/water	Not applicable
Viscosity, dynamic	10 - 100 mPa.s (21 °C) Please, note QC information ! 10 - 100 mPa.s (21 °C)
Impact sensitivity	Not impact sensitive.
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
9.2 Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Thermal decomposition No data available

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions No hazardous reactions when stored and handled according to prescribed instructions.



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- 10.4 Conditions to avoid** freezing
Extremes of temperature and direct sunlight.
- 10.5 Incompatible materials** Store only in the original container.
- 10.6 Hazardous decomposition products** No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

- Acute oral toxicity** LD50 (Rat) > 5,000 mg/kg
- Acute inhalation toxicity** LC50 (Rat) > 5.19 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
- Acute dermal toxicity** LD50 (Rabbit) > 2,000 mg/kg
- Skin corrosion/irritation** No skin irritation (Rabbit)
- Serious eye damage/eye irritation** No eye irritation (Rabbit)
- Respiratory or skin sensitisation** Skin: Non-sensitizing. (Guinea pig)
Test conducted with a similar formulation.

Assessment STOT Specific target organ toxicity – single exposure

Bacillus subtilis: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

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.

Assessment toxicity to reproduction

Bacillus subtilis: Test not required for microorganisms.

Assessment developmental toxicity

Bacillus subtilis: Test not required for microorganisms.

Aspiration hazard

Based on available data, the classification criteria are not met.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)) 162 mg/l 3.24 x 10⁹



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	CFU/L Exposure time: 30 d The value mentioned relates to the active ingredient.
	NOEC (Oncorhynchus mykiss (rainbow trout)) 86 mg/l 1.72 x 10 ⁹ CFU/L Exposure time: 30 d The value mentioned relates to the active ingredient.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 108 mg/l 2.16 x 10 ⁹ CFU/L Exposure time: 48 h The value mentioned relates to the active ingredient.
	NOEC (Daphnia magna (Water flea)) 13 mg/l 2.6 x 10 ⁸ CFU/L Exposure time: 48 h The value mentioned relates to the active ingredient.
	EC50 (Daphnia magna (Water flea)) 1.6 x 10 ⁶ CFU/mL Exposure time: 21 d The value mentioned relates to the active ingredient.
	NOEC (Daphnia magna (Water flea)) 7.9 x 10 ⁵ CFU/mL Exposure time: 21 d The value mentioned relates to the active ingredient.
Toxicity to aquatic plants	NOEC (Desmodesmus subspicatus (green algae)) >= 100 mg/l The value mentioned relates to the active ingredient.
	LOEC (Desmodesmus subspicatus (green algae)) > 100 mg/l The value mentioned relates to the active ingredient.
12.2 Persistence and degradability	
Biodegradability	Bacillus subtilis: Evaluation of biodegradability is not relevant for micro-organisms.
12.3 Bioaccumulative potential	
Bioaccumulation	Bacillus subtilis: Evaluation of bioaccumulation is not relevant for micro-organisms.
12.4 Mobility in soil	
Mobility in soil	Bacillus subtilis: Evaluation of mobility in soil is not relevant for micro-organisms.
12.5 Results of PBT and vPvB assessment	
PBT and vPvB assessment	Bacillus subtilis: Evaluation of PBT/vPvB properties is not relevant for micro-organisms.
12.6 Other adverse effects	
Additional ecological information	No other effects to be mentioned.

SECTION 13: DISPOSAL CONSIDERATIONS



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13.1 Waste treatment methods

Product	In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.
Contaminated packaging	Triple rinse containers. Do not re-use empty containers. Not completely emptied packagings should be disposed of as hazardous waste.
Waste Key	In accordance with Section 2.0 - Classification of Hazardous Waste (DENR administrative order 2013-22 as amended): J201 - Containers previously containing toxic chemical substances M504 - Pesticides

SECTION 14: TRANSPORT INFORMATION

According to ADN/ADR/RID/IMDG/IATA not classified as dangerous goods.

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

14.1 – 14.5 Not applicable.

14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

No transport in bulk according to the IBC Code.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Further information

WHO-classification: U (Unlikely to present acute hazard in normal use)

Labelling According to Fertilizer and Pesticide Authority
Pesticide Regulatory Policies and Implementing Guidelines 2nd Edition
Classification of Pesticides Based on Toxicity and Hazard

SECTION 16: OTHER INFORMATION

Text of the hazard statements mentioned in Section 3

Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road

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ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 2015/830 amending Regulation (EU) No 1907/2006 and any subsequent amendments. This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.