



SERENADE

Version 3 / GB
102000027846

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Print Date: 14.11.2014

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

1.1 Product identifier

Trade name SERENADE
Product code (UVP) 80924771

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

Use Fungicide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer CropScience Limited
230 Cambridge Science Park
Milton Road
Cambridge
Cambridgeshire CB4 0WB
United Kingdom

Telephone +44(0)1223 226500
Telefax +44(0)1223 426240
Responsible Department Email: ukinfo@bayercropscience.com

1.4 Emergency telephone no.

Emergency telephone no. 0800-220876 (UK 24 hr)
+44(0)1635-563000 (Overseas 24 hr)

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.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

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.

Hazard label for supply/use required.

Hazard statements

H411 EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

P501 Dispose of contents/container to a licensed waste disposal contractor or collection site, except for triple rinsed empty containers which can be disposed of as non-hazardous waste.

2.3 Other hazards

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

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Suspension concentrate (=flowable concentrate)(SC)
Bacillus subtilis strain QST 713 13,96 g/l
Biological control with fungicidal properties

Hazardous components

R-phrase(s) according to EC directive 67/548/EEC
Hazard statements according to Regulation (EC) No. 1907/2006

| Name | CAS-No. / EC-No. | Classification | | Conc. [%] |
|--------------------------------------|---------------------|----------------------------|---------------------------------|-----------|
| | | EC Directive 67/548/EEC | Regulation (EC) No 1272/2008 | |
| Bacillus subtilis, strain QST 713 | | Not classified | Not classified | 1.34 |

Further information

For the full text of the R-phrases/ Hazard statements mentioned in this Section, see Section 16.

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

| | |
|-----------------------|---|
| General advice | When symptoms develop and persist, seek medical advice. Move to fresh air. |
| Inhalation | Move the victim to fresh air and keep at rest. |
| Skin contact | Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. |
| Eye contact | Remove contact lens and rinse eyes immediately with plenty of water, also under the eyelids, for at least 15 minutes. |
| Ingestion | 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. |

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.

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media**

| | |
|-------------------|--|
| Suitable | Water spray, Foam, Dry chemical, Carbon dioxide (CO ₂) |
| Unsuitable | High volume water jet |

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| 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 fire-fighters | 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. When dealing with a spillage do not eat, drink or smoke.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water. If spillage enters drains leading to sewage works inform local water company immediately. If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

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.

Additional advice Use personal protective equipment.

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. Ensure adequate ventilation.

Advice on protection against fire and explosion No special precautions required.

Hygiene measures Avoid contact with skin, eyes and clothing. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in original container and out of the reach of children, preferably in a locked storage area. Keep containers tightly closed in a dry, cool and well-ventilated place.

Suitable materials HDPE (high density polyethylene)

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No control parameters known.

8.2 Exposure controls

Refer to COSHH assessment (Control of Substances Hazardous to Health (Amendment) Regulations 2004). Engineering controls should be used in preference to personal protective equipment wherever practicable. Refer also to COSHH Essentials.

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

Wear respirator with a particle filter mask (protection factor 20) conforming to European Norm EN149FFP3 or EN140P3 or equivalent.

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.

Hand protection

Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

| | |
|------------------------------------|-------------------|
| Form | suspension |
| Colour | brown |
| Odour | sweet, earthy |
| Odour Threshold | no data available |
| pH | 5.2 - 5.4 |
| Boiling point/boiling range | >= 100 °C |
| Flash point | no data available |
| Minimum ignition energy | no data available |
| Upper explosion limit | no data available |

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| Lower explosion limit | no data available |
| Vapour pressure | no data available |
| Relative vapour density | no data available |
| Density | ca. 1.050 g/cm ³ at 20 °C |
| Water solubility | dispersible |
| Partition coefficient: n-octanol/water | no data available |
| Viscosity, dynamic | 10 - 100 mPa.s |
| Explosivity | no data available |
| 9.2 Other information | Further safety related physical-chemical data are not known. |

SECTION 10: STABILITY AND REACTIVITY**10.1 Reactivity****Thermal decomposition** Stable under normal conditions.**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. Stable under normal conditions.**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
Test conducted with a similar formulation.**Acute inhalation toxicity** LC50 (rat) > 1.45 mg/l
Determined in the form of liquid aerosol.
Highest attainable concentration.
No deaths
Test conducted with a similar formulation.**Acute dermal toxicity** LD50 (rabbit) > 2,000 mg/kg**Skin irritation** No skin irritation (rabbit)**Eye irritation** No eye irritation (rabbit)**Sensitisation** Non-sensitizing. (guinea pig)
Test conducted with a similar formulation.**Assessment repeated dose toxicity**

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

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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.

SECTION 12: ECOLOGICAL INFORMATION**12.1 Toxicity****Toxicity to fish**LC50 (Oncorhynchus mykiss (rainbow trout)) 162 mg/l 3.24 x 10⁹ 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 10⁹ CFU/L

Exposure time: 30 d

The value mentioned relates to the active ingredient.

Toxicity to aquatic invertebratesEC50 (Daphnia magna (Water flea)) 108 mg/l 2.16 x 10⁹ 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 10⁸ CFU/L

Exposure time: 48 h

The value mentioned relates to the active ingredient.

EC50 (Daphnia magna (Water flea)) 1.6 x 10⁶ CFU/mL

Exposure time: 21 d

The value mentioned relates to the active ingredient.

NOEC (Daphnia magna (Water flea)) 7.9 x 10⁵ CFU/mL

Exposure time: 21 d

The value mentioned relates to the active ingredient.

Toxicity to aquatic plants

NOEC (Scenedesmus subspicatus) >= 100 mg/l

The value mentioned relates to the active ingredient.

LOEC (Scenedesmus subspicatus) > 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:

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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**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. Advice may be obtained from the local waste regulation authority (part of the Environment Agency in the UK).

Contaminated packagingSmall containers (< 10 l or < 10 kg) should be rinsed thoroughly using an integrated pressure rinsing device, or, by manually rinsing three times.
Add washings to sprayer at time of filling.
Dispose of empty and cleaned packaging safely.
Large containers (> 25 l or > 25 kg) should not be rinsed or re-used for any other purpose.
Return large containers to supplier.
Follow advice on product label and/or leaflet.**Waste key for the unused product****020109** Agrochemical waste other than those mentioned in 020108**SECTION 14: TRANSPORT INFORMATION**

According to ADN/ADR/UK 'Carriage' Regulations/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 73/78 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**



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UK and Northern Ireland Regulatory References

This material may be subject to some or all of the following regulations (and any subsequent amendments). Users must ensure that any uses and restrictions as indicated on the label and/or leaflet are followed.

Transport

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No 1348)
Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No 2367)
Air Navigation Dangerous Goods Regulations 2002 (SI 2002 No 2786)

Supply and Use

Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716)
Chemical (Hazard Information and Packaging for Supply) (Northern Ireland) Regulations 2009
Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No 2677)
EH40 Occupational Exposure Limits - Table 1 List of approved workplace exposure limits
Control of Pesticide Regulations 1986
Dangerous Substances and Explosive Atmospheres Regulations 2002

Waste Treatment

Environmental Protection Act 1990, Part II
Environmental Protection (Duty of Care) Regulations 1991
The Waste Management Licensing Regulations 1994 (as amended)
Hazardous Waste Regulations 2005 (Replacing Special Waste Regulations 1996 as amended)
Landfill Directive
Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)
Water Resources Act 1991
Anti-Pollution Works Regulations 1999

Further information

WHO-classification: III (Slightly hazardous)

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: OTHER INFORMATION

Text of R-phrases mentioned in Section 3

Text of the hazard statements mentioned in Section 3

The above information is intended to give general health and safety guidance on the storage and transport of the product.

It is not intended to apply to the use of the product for which purposes the product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with.

The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given.

The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate.

No liability will be accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.



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