

Section 1 Identification of the mixture and of the company

1.1 Product identifier

Product name Eco-Bb
Synonyms Bb-Protex

1.2 Relevant identified uses of the mixture and uses advised against

Use of the product Bioinsecticide
Uses advised against

1.3 Details of the supplier of the Safety Data Sheet

Manufacturer Andermatt PHP (Pty) Ltd
Address P.O. Box 207
Nottingham Road 3280
Kwazulu-Natal, South Africa
Phone +27 33 2666130
E-mail info@andermatt-php.co.za

1.4 Emergency telephone number

Phone (medical) +27 861555777 (South African Poison Information Centre)

Section 2 Hazards identification

2.1 Classification of the mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

2.2 Label elements

Store locked up and keep out of the reach of children
If medical advice is needed, have product container or label at hand
To avoid risks to human health and the environment, comply with the instructions for use.
The product contains spores of *Beauveria bassiana* which may cause allergic reactions in sensitive persons

2.3 Other hazards

This mixture does not contain any substances, which are persistent, bio-accumulative and toxic (PBT). This mixture does not contain any substances which are very persistent and very bio-accumulative (vPvB).

Section 3 Composition/information on ingredients

3.1 Substances

This product is a mixture

3.2 Mixtures

Beauveria bassiana strain R444 spores in a food and medicinal grade carrier
No hazardous components

Section 4 First aid measures

4.1 Description of first aid measures

General notes Change any contaminated or wetted clothing at once.
If poisoning occurs contact a doctor or local poison/toxicology centre..

Following inhalation Move to fresh air, rest, half upright position, loosen clothing.
Oxygen or artificial respiration if there is difficulty in breathing.
Seek medical advice after significant exposure. Symptomatic treatment is advised.

Following skin contact	Remove contaminated clothing. Seek medical advice if irritation develops. Launder clothes before reuse. After contact with skin, wash immediately with plenty of water.
Following eye contact	Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops.
Following ingestion	No typical symptoms and effects known. Drink water.
Advice to physician	Symptomatic treatment

4.2 Most important symptoms and effects, both acute and delayed

No typical symptoms and effects known.

4.3 Indication of any immediate medical attention and special treatment needed

None

Section 5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water, Foam, Carbon dioxide

Unsuitable extinguishing media None

5.2 Special hazards arising from the mixture

Carbon monoxide, carbon dioxide

5.3 Advice for firefighters

None

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use protective clothing, gloves, safety goggles and boots. Do not inhale.

6.2 Environmental precautions

Prevent entry into drains, waters, sewages etc. of the product; contact immediately the municipal technical management if the product enters such bodies.

6.3 Methods and material for containment and cleaning up

Sweep or vacuum, without creating dust, into a suitable container for disposal and wash area with water.

6.4 Reference to other sections

See personal protective equipment under Section 8 of SDS.

Section 7 Handling and storage

7.1 Precautions for safe handling

The usual precautions for handling chemicals should be observed. Ensure adequate ventilation when handling. Respiratory protection is recommended.

7.2 Conditions for safe storage, including any incompatibilities

Must be stored under cool, dry conditions between 4 and 10°C. Use within one month of opening. Avoid contact with fungicides and all toxic materials.

7.3 Specific end use(s)

Bioinsecticide

Section 8 Exposure controls/personal protection

8.1 Control parameters

The usual precautionary measures for handling chemicals should be observed. Provide adequate ventilation.

8.2 Exposure controls

Eye/face protection	Wear a face shield or goggles
Skin protection	Use protective clothing, chemical-resistant gloves and boots
Respiratory protection	Respiratory protection is recommended
Thermal hazards	No specific recommendations
Other information	None

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Powder
Colour	White
Odour	Slight mushroomy odour
Odour threshold	Not determined
pH	4.3 - 5.7 (1% solution in water)
Melting point/freezing point	Not available
Initial boiling point and boiling range	Not applicable
Flash point	Not flammable
Evaporation rate	Not determined
Flammability	Not flammable
Upper/lower flammability or explosive limits	Not flammable
Vapour pressure	Not applicable
Vapour density	Not relevant
Relative density	1.58 (g/ml)
Solubility(ies)	Partly soluble
Moisture content	8%
Partition coefficient: n-cotanol/water	Not applicable
Auto-ignition temperature	Not available
Decomposition temperature	Not determined
Viscosity	Not determined
Explosive properties	Not explosive
Oxidising properties	Not determined

9.2 Other information

None

Section 10 Stability and Reactivity

10.1 Reactivity

Not reactive

10.2 Chemical stability

No decomposition if stored and handled properly

10.3 Possibility of hazardous reactions

Not relevant

10.4 Conditions to avoid

Minimize dust formation. Avoid very low or very high temperatures.

10.5 Incompatible materials

Fungicides and toxic compounds (to maintain product quality)

10.6 Hazardous decomposition products

None

Section 11 Toxicological information
11.1 Information on toxicological effects

Acute toxicity	Rat 3.13×10^8 CFU/animal, not toxic or pathogenic
Skin corrosion/irritation	Rabbit, 500mg/animal, non-irritating
Acute eye damage/irritation	Rabbit, 100 mg/animal, non-toxic
Respiratory or skin sensitization	Rat 1.25×10^7 CFU/animal, non-toxic
Germ cell mutagenicity	Not determined
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Aspiration hazard	Not relevant

Section 12 Ecological information
12.1 Toxicity
Acute (short-term) toxicity

Fish	<i>Danio rerio</i> : No mortality at 2000mg/litre water <i>Oncorhynchus mykiss</i> : No mortality at 1×10^4 CFU/g in feed and 1×10^4 CFU/ml in water
Crustacea	<i>Daphnia magna</i> : No mortality at 2000mg/litre in acute immobilisation study. Mortality increased in 21-day reproduction study dosed at 1×10^5 CFU/ml.
Algae/aquatic plants	Not determined
Other organisms	Quail, LD ₅₀ > 5ml/kg body weight Honeybee, oral (96 hours) LD ₅₀ > 100 x MFAR Honeybee, contact (96 hours) LD ₅₀ > 100 x MFAR Green lacewing larvae, LC ₅₀ > 1×10^8 spores/g diet Ladybird beetle larvae, LC ₅₀ > 1×10^8 spores/g diet Parasitic wasp, LC ₅₀ > 1×10^8 spores/g diet Earthworm LC ₅₀ > 100mg/kg soil

Chronic (long-term) toxicity

Fish	Not determined
Crustacea	Not determined
Algae/aquatic plants	Not determined
Other organisms	Not determined

12.2 Persistence and degradability

Abiotic Degradation	Not determined
Physical- and photo-chemical elimination	Not determined
Biodegradation	Biodegradable

12.3 Bioaccumulative potential

Octanol/water partition coefficient (Kow)	Not determined
Bioconcentration factor (BCF)	Not determined

12.4 Mobility in soil

Known or predicted distribution to environmental compartments	Not determined
Surface tension	Not determined
Adsorption/Desorption	Not determined

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

None

12.7 Additional information
Section 13 Disposal considerations
13.1 Waste treatment methods

Product/Packaging disposal	Use pressure rinsing devices or triple rinsing with water to reduce any product residues in the container to insignificant levels. Don't dispose product or containers on ponds, rivers or ditches. Don't re-use containers for other purposes. Waste disposal and recycling contractors will take cleaned containers. Waste resulting from the use of the product must be disposed on site or on an approved waste disposal facility. Empty the sprayer out in the field being treated by spraying out on to a relatively pest free part of the field left unsprayed or under-dosed for the crop.
Waste codes/waste designations	Not applicable
Waste treatment-relevant information	None
Sewage disposal-relevant information	Waste should not be disposed of by release to sewers
Other disposal recommendations	None

Section 14 Transport Information

Inland transport	Not restricted
Sea transport	Not restricted
Air transport	Not restricted

Section 15 Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the mixture

Authorisations	Not relevant
Restrictions on use	Not relevant

15.2 Chemical Safety Assessment

Advice on product handling can be found in sections 7 and 8 of this SDS.

Section 16 Other information

The information only concerns the above-mentioned product and does not need to be valid if used with other products or in any process. The information is, to our best present knowledge, correct and complete and is given in good faith but without warranty. It remains the user's responsibility to make sure that the information is appropriate and complete for particular use of the product.