
1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

Identification of the substance:

Product name: nematop

Registration No.:

Use of the Substance: Biological Insecticide for the control of Black Vine Weevil

Manufacturer:

E-Nema GmbH
Klausdorfer Straße 28-36
24223 Schwentinental
Germany
Tel. +49-4307-8295-0
Fax. +49-4307-8295-14
www.e-nema.de

Importer, distributor:

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name of the substance

Description

Insect-pathogenic nematodes

Scientific name: *Heterorhabditis bacteriophora*

Family: Heterorhabditidae

Order: Rhabditida

class: Nematoda

Strain designation: EN01

Original description: Poinar G.O. Jr. 1975. Description and biology of a new parasitic rhabditoid *Heterorhabditis bacteriophora* n.gen., n.sp. *Nematologica*, **21**, 463-470.

Symbiotic bacterium:

The nematode is symbiotically associated with the bacterium *Photorhabdus luminescens*. The bacteria (100 to 500 cells per nematode) are harboured in the intestine of the free-living infective juvenile. They are not released before the infective juvenile has successfully entered the insect haemocoel.

Scientific name: *Photorhabdus luminescens*

Familie: Enterobacteriaceae

ID. Code: ENB01

American Type Culture Collection accession number: **ATCC 29999**

Original description: Genus *Xenorhabdus*:

(This genus was erected and included all symbionts of the entomopathogenic rhabditid nematodes of the genera *Steinernema* and *Heterorhabditis*).

Thomas, G.M. and Poinar, G.O. Jr. 1979. *Xenorhabdus* gen.nov., a genus of entomopathogenic nematophilic bacteria of the family Enterobacteriaceae. *Int. J. System. Bact.*, **29**, 352-360.

Erection of the new genus *Photorhabdus (luminescens)*

(This genus was erected to separate the symbionts of *Steinernema* from those of *Heterorhabditis*)

Boemare, N.E., Akhurst, R.J., Mourant, R.G. 1993. Desoxyribonucleic acid relatedness between *Xenorhabdus* spp. (Enterobacteriaceae), symbiotic bacteria of entomopathogenic nematodes, with a proposal to transfer *X. luminescens* to a new genus, *Photorhabdus* gen.nov. *Int. J. Syst. Bacteriol.*, **43**, 249-255.

Components:	
Inert carrier	65 %
Water	25 %
Nematodes (fresh weight)	10 %

Hazardous components:

Quartz, Xn	< 6.5 %	EU no. 238-878-4
Cristobalite, Xn	< 3.5 %	EU no. 238-455-4

3. HAZARDS IDENTIFICATION

Application of nematodes does not pose any risk to humans, pets and non-target organisms. Insects other than the target may be infected, but the effect on the species composition in an ecosystem proved to be not detectable (Bathon, H. 1996. Impact of entomopathogenic nematodes on non-target hosts. Biocontrol Science and Technology **6**. 421-434).

4. FIRST AID MEASURES

Additional advice:

Toxicological and ecological studies have shown no indication for a dangerous effect of entomopathogenic nematodes to humans or the environment. It is, however, recommended to handle the product with care and to use it only for the purposes indicated in the instructions for use.

Inhalation: After inhalation supply fresh air. Obtain medical attention in case of symptoms

Skin contact: Wash with water and soap and rinse thoroughly

Eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, call a physician.

Ingestion: Rinse out mouth and give plenty of water

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water. The product does not burn by itself.

Extinguishing media which must not be used for safety reasons: None

Special exposure hazards in fire: None

Special protective equipment for fire-fighters: None

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: None

Environmental precautions: None

Methods for cleaning up: Shovel into suitable container for disposal and dispose of in compliance with local and national regulations.

7. HANDLING AND STORAGE

Handling

No special requirements. Wash hands with soap and water before breaks and after handling the product.

Storage

Keep unopened in a dry and cool place. Never expose to temperatures below 0°C and above 30°C.

Shelf life of the product is 6 weeks if stored at temperatures between 4°C and 12°C.

Store in a refrigerator, but do not freeze.

Keep out of reach of children. Keep away from food, drink and animal feeding stuffs.

Additional advice: Use entire pack content at one time.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure limit values:

No additional requirements, see point 7.

Personal exposure controls

Occupational exposure controls:

Wash hands with soap and water before breaks and after handling the product.

Do not drink, eat or smoke while handling the product

Respiratory protection: Not required

Hand protection: Protective gloves

Skin and body protection: Not required

Eye protection: Not required

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Water dispersible powder, grey

Odour: Like moist loam

Boiling point /range: Not applicable

Melting point / range : Not applicable

Flash point: Not applicable

Explosive properties: Not applicable

Relative density: 0.26 g / ml

pH (100 g/l) 20°C: 7-8 (neutral)

Water solubility: insoluble

10. STABILITY AND REACTIVITY

Conditions to avoid: Temperatures > 30 °C and < 0 °C.

Materials to avoid: Acids and bases

Hazardous reactions: No dangerous reactions known

Hazardous decomposition products: Hydrogen fluoride and other fluoride gases

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

LD50 oral no toxicity (>2500 mg/kg OECD method 401)

LD50 dermal no toxicity (>2500 mg/kg OECD method 402)

LD50 inhalation no toxicity (>12.74 mg/l air OECD for 4 hours)

Specific results of animal experience:

The product is harmless to earthworms, bees, beneficials, birds, fishes and all warm blooded animals.

Primary Irritation

Skin: Prolonged or widespread contact may cause drying out of skin

Eye: Irritation caused by mechanical influence possible

Sensitisation: No sensitisation known

Human experience: Entomopathogenic nematodes cannot survive inside the human body, and are hence not hazardous to humans.

12. ECOLOGICAL INFORMATION

Persistence and degradability

Physical and chemical degradability: Incinerates at 600°C without leaving harmful substances.

Biological degradability: Like other naturally occurring beneficials

Ecotoxicity

Mobility: The mobility of nematodes in the soil is < 10 meters per year.

Bioaccumulative potential: No bioaccumulative potential

Aquatic toxicity: No aquatic toxicity

Toxicity to bees: Not toxic to bees

Further Information:

Due to the selectivity of entomopathogenic nematodes to a few insect species, populations of beneficial organisms are not endangered. Since the beginning of the commercialisation of nematodes in 1981 no negative effects on ecosystems or non-target insects have ever been reported.

13. DISPOSAL CONSIDERATIONS

Product

Use entire product content at one time. Application at a higher than indicated dose has no negative effect. Dispose of the package in compliance with local and national regulations. Packages can be landfilled or incinerated.

Wastes

Don't use the product for other than the indicated use and dispose of in compliance with local and national regulations.

14. TRANSPORT INFORMATION

Land transport

ADR / RID : Not classified as dangerous in the meaning of transport regulations

Sea transport

IMDG: Not classified as dangerous in the meaning of transport regulations

Air transport

ICAO / IATA : Not classified as dangerous in the meaning of transport regulations

15. REGULATORY INFORMATION

Classification according to European directive on classification of hazardous preparations:

No classification required

16. OTHER INFORMATION

Further information:

The information provided in this Safety Data Sheet is correct to the best of our knowledge at the date of its publication. The information given is designed only as a guidance for safe handling, use,, processing, storage, transportation , disposal and release and is not to be considered a warranty or quality specification. E-Nema GmbH disclaims any liability for loss or damage resulting from the use of these data, information or suggestions.

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