

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name:	NATURALIS-L
Product form:	Mixture
Product code:	None
Type of formulation:	OD (Oil based suspension concentrate)
Active ingredient:	<i>Beauveria bassiana</i> strain ATCC 74040

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

1.2.1 Relevant identified uses

Main use category:	Plant protection product for professional use. Agriculture.
Use of the substance/mixture:	Insecticide.

1.2.2 Uses advised against

No additional information available.

1.3. Details of the supplier of the safety data sheet

Company name:	CBC (Europe) S.r.l.
Address:	Via E. Majorana 2 - 20834 Nova Milanese (MB) - Italy
Telephone:	(+39) 035-335313
Fax:	(+39) 035-335334
E-mail:	infobiogard@cbceurope.it

1.4. Emergency telephone number

Company number:	(+39) 035-335313
National center for toxicological information:	(+39) 02-66101029 Centro Antiveneni Milano - Italy

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Product is not classified as dangerous according to Regulation (EC) No. 1272/2008 (CLP).

Classification according to Regulation (EC) 1272/2008 (CLP)

Not classified.

2.2. Label elements

Labelling according to Regulation (EC) 1272/2008 (CLP)

Hazard pictogram(s):	//	
Signal word(s):	//	
Hazard statement(s):	//	
Precautionary statement(s):	P261	Avoid breathing spray.
	P262	Do not get in eyes, on skin, or on clothing.
	P271	Use only outdoors or in a well-ventilated area.
	P280	Wear protective gloves.
	P309+P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
Supplementary statement(s):	EUH401	To avoid risks to human health and the environment, comply with the instructions for use.
	SP1	Do not contaminate water with the product or its container.
	EUH208	Contains <i>Beauveria bassiana</i> , strain ATCC 74040. Micro-organisms may have the potential to provoke sensitizing reactions.

2.3. Other hazards

The properties of the mixture do not meet the specific criteria detailed in Annex XIII of Regulation (EC) No. 1907/2006 or do not allow a direct comparison with all the criteria in Annex XIII, but nevertheless indicate that the mixture would not have PBT/vPvB properties so the substance is not considered a PBT/vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable.

3.2. Mixtures

Beauveria bassiana strain ATCC 74040 (2.3 x 10⁷ viable spores/ml)

No. CAS:	63428-82-0
No. EC:	926-668-1
No. INDEX:	-
No. CIPAC	957
N° REACH registration:	Not relevant.
Classification Directive 1967/584/CEE:	Not classified.
Classification Regulation EC 1272/2008 (CLP):	Not classified.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid general:	In the event of any complaints or symptoms, avoid further exposure.
Eye contact:	IF IN EYES: Rinse cautiously with water for at least 15 minutes, also under eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist.
Skin contact:	IF ON SKIN: Wash with plenty of soap and water. Remove contaminated clothing and shoes. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation:	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist call a doctor.
Ingestion:	IF SWALLOWED: Immediately call a POISON CENTER or doctor. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries: No information available.

4.3. Indication of any immediate medical attention and special treatment needed

If poisoning is suspected, immediately contact a physician, the nearest hospital, or the nearest poison Control Center. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow any advice given.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: water spray, carbon dioxide (CO₂), dry chemical powder, alcohol resistant foam.
Unsuitable extinguishing media: water spray jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Combustion or thermal decomposition may generate toxic vapours: nitrogen oxides, carbon monoxide, hydrocarbons.

5.3. Advice for firefighters

Firefighting instructions:	Exercise caution when fighting any chemical fire. Fight fire from safe distance and protected location. Do not breathe fumes. Cool closed containers exposed to fire with water spray. If possible, take the containers out of dangerous zone. Contain fire-fighting water with dikes or absorbents to prevent migration and entry into sewers, streams or groundwater .
Protection during firefighting:	Wear suitable protective clothing, gloves, eye/face protection and respiratory protection. Wear a self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Protective equipment:	Wear suitable protective clothing (coveralls), suitable protective gloves and suitable respiratory protective equipment when handling the product.
Emergency procedures:	Evacuate area. Ensure adequate ventilation. Avoid direct contact with the substance. Contain any spills with dikes or absorbents to prevent migration and entry into sewers, streams or

groundwater.

6.2. Environmental precautions

Contain spillage. Do not contaminate water with the product or its container. Do not clean application equipment near surface water and avoid contamination via drains from farmyards and roads.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up:	Clean up any spills as soon as possible, using an absorbent material to collect it (sand, diatomaceous earth, acid binders, universal binders, sawdust). Once absorbed collect spilled material with shovels, buckets and place in closed containers and label properly. Remove as chemical waste, according to national or local legislation. In the event of major spillage: contact an expert.
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6.4. Reference to other sections

Refer Section 13 for disposal information. No dangerous substances are released.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling:	When mixing spray formulations, avoid splashing/aerosol generation. When spraying diluted formulation, observe all specified restrictions and wear appropriate protective equipment. In case of insufficient ventilation, wear suitable respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
Hygiene measures:	Always wash your hands immediately after handling this product, and once again before leaving the workplace Contaminated work clothing should not be allowed out of the workplace Do no eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions:	Protect from direct sunlight. Keep locked up and out of the reach of children. Keep container tightly closed. Keep away from heat and direct sunlight. Keep away from food, drink and animal feedingstuffs.
Storage temperature:	The product has a shelf-life of 1 year at room temperature (20-25°C). Do not store the product in extreme heat in order to avoid loss of potency. The product preferably should be stored at 4-5 °C to retain maximum spore viability.
Storage area:	Store in dry, cool, well-ventilated area, or in a refrigerator.
Packaging materials:	Use original packaging.

7.3. Specific end use(s)

Insecticide for agricultural use. Refer to the label.


SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No occupational exposure limits have been established for the product. See section 3 "Information on ingredients".

8.2. Exposure controls

Use personal protective equipment in accordance with the standards set by European and national regulations.

Appropriate engineering controls:	engineering	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Personal protective equipment:	protective	Protective clothing. Protective goggles. Gloves. Dust/aerosol mask. 
Mandatory hand protection:	hand	Wear impervious gloves resistant to chemical. Replace the gloves at any sign of deterioration.
Eye protection:		Use gloves. Panoramic glasses against liquid splash.
Skin and body protection:		Protective clothing with long sleeves waterproof and resistant to chemicals. Rubber boots.
Respiratory protection:		Filter mask for gases, vapours and particles. Replace when an increase in resistance to

Hygiene measures:	breathing is observed and/or a small or test of the containment is detected. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke while handling the product. Clean gloves with soap and water before removing. Wash hands and face with soap and water before eating, drinking smoking and immediately after handling product. Clean equipment, premises and work clothes regularly. Work clothing should remain on the work area and stored separately from street clothes.
Environmental exposure controls:	Discharge into the environment must be avoided. Do not contaminate surface and groundwater.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance:	Liquid, yellowish brown.
b) Odour:	Characteristic.
c) Odour threshold:	Not available.
d) pH:	6.25 (CIPAC MT 75.3).
e) Melting point/freezing point:	Not available.
f) Initial boiling point and boiling range:	Not available.
g) Flash point:	> 180 °C (92/69/EEC A.9).
h) Evaporation rate:	Not available.
i) Flammability (solid, gas):	405 ± 5 °C (92/69/EEC A.15).
j) Upper/lower flammability or explosive limits:	Not available.
k) Vapour pressure:	Not available.
l) Vapour density:	Not available.
m) Relative density:	0.96 - 0.97 g/ml (CIPAC MT 3.3.2).
n) Solubility(ies):	Water: soluble.
o) Partition coefficient: n-octanol/water:	Not available.
p) Auto-ignition temperature:	Not available.
q) Decomposition temperature:	Not available.
r) Viscosity:	200-500 cPs (OECD 114).
s) Explosive properties:	No explosive properties (92/69/EEC A.14).
t) Oxidising properties:	Chemical structure suggests no oxidising properties.

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable at normal handling and storage conditions.

10.2. Chemical stability

Stable under normal ambient conditions and under the anticipated conditions of use.

10.3. Possibility of hazardous reactions

No particular risks of hazardous reactions under normal conditions.

Hazardous polymerization does not occur. Is not explosive and does not exhibit oxidant properties.

10.4. Conditions to avoid

Extreme heat or cold temperature. Keep out from freezing.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Combustion or thermal decomposition may generate toxic vapours: nitrogen oxides, carbon monoxide, hydrocarbons.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

a) Acute toxicity

Naturalis	oral	LD ₅₀ > 1.1 x 10 ⁸ CFU/kg b.w (rat). No evidence of toxicity, pathogenicity or infectivity.
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	dermal	LD ₅₀ > 2000 mg/kg (rat).
	inhalation	LD ₅₀ > 2.5 x 10 ⁹ CFU/kg b.w. (rat). No evidence of pathogenicity or infectivity.
No product classification required.		
b) Irritation		
Naturalis	Not irritating for eye/skin.	
No product classification required.		
c) Corrosivity		
<i>Beauveria bassiana</i> strain ATCC 74040	No corrosive effect known.	
No product classification required.		
d) Sensitisation		
Naturalis	Not sensitiser for skin. Microorganisms may have the potential to provoke sensitizing reactions.	
No product classification required.		
e) Repeated dose toxicity		
<i>Beauveria bassiana</i> strain ATCC 74040	No toxic effects at repeated dose known.	
No product classification required.		
f) Carcinogenicity		
<i>Beauveria bassiana</i> strain ATCC 74040	No carcinogenic effect known.	
No product classification required.		
g) Mutagenicity		
<i>Beauveria bassiana</i> strain ATCC 74040	No mutagenic effect known.	
No product classification required.		
h) Toxicity for reproduction		
<i>Beauveria bassiana</i> strain ATCC 74040	No toxic effect for reproduction known.	
No product classification required.		
SECTION 12: Ecological information		
12.1. Ecological information		
<u>Effects on birds</u>		
<i>Beauveria bassiana</i> strain ATCC 74040	LD ₅₀ > 2667 mg/kg bw/day corresponding to 6.85 x 10 ¹⁰ CFU/kg bw/day (Bobwhite quail; 5 days dosing/25 days observation). No observed external signs of pathogenicity. No findings of the gross necropsy.	
No product classification required.		
<u>Effects on mammals</u>		
Naturalis	LD ₅₀ > 1.9 x 10 ⁸ CFU/animal; no evidence of toxicity, pathogenicity, or infectivity (rat; acute). Spores still detectable in faeces at end of study on day 14.	
No product classification required.		
<u>Effects on aquatic organisms</u>		
<i>Beauveria bassiana</i> strain ATCC 74040	Fish species (<i>Pimephales promelas</i> ; 30 days): NOEC < 1 x 10 ⁹ CFU/L (survival of 26 days post hatch; larval growth) Invertebrate species (<i>Daphnia magna</i> ; 21 days): Effects at lowest concentration tested (mortality of adults).	
No product classification required.		
<u>Effects on algae</u>		
Naturalis	Algae species (<i>Pseudokirchneriella subcapitata</i> ; 3 d): E _r C ₅₀ : > 100 mg/L; E _b C ₅₀ : > 100 mg/L; NOE _b C: < 100 mg/L; NOE _r C: > = 100 mg/L	

	100 mg corresponds to 2.3×10^6 CFU/L.
No product classification required.	
<u>Effects on aquatic plants</u>	
Not performed, not required.	
<u>Effects on bees</u>	
<i>Beauveria bassiana</i> strain ATCC 74040	Bees (<i>Apis mellifera</i> ; one time contact, 30-day continuous dietary exposure): Averaged survival rates: 92 % in the untreated control 78 % in the attenuated control 78 % among treated honeybees Bumblebees (dermal contact, orally via sugar water, orally via pollen): LC ₅₀ > 3.45×10^7 CFU/L
No product classification required.	
<u>Effects on terrestrial arthropods other than bees</u>	
Naturalis	Laboratory Tests <i>Aphidius rhopalosiphi</i> (adult): LR ₅₀ : 68.9 g MPCA/ha (0.997 L Naturalis/ha) Corresponding to 2.3×10^{10} CFU/ha NOEC: 24 g MPCA/ha (0.347 L Naturalis/ha) <i>Typhlodromus pyri</i> (adult): LR ₅₀ : 402.1 g a.s./ha, equivalent to 5.819 L Naturalis/ha (Mortality) Corresponding to 1.34×10^{11} CFU/ha ER ₅₀ : 81 g a.s./ha; equivalent to 1.1 L Naturalis-L/ha (Fecundity) Corresponding to 2.53×10^{10} CFU/ha NOEC: 50 g MPCA/ha (0.723 L Naturalis/ha) Extended Laboratory Tests <i>Aphidius rhopalosiphi</i> (adult): LR ₅₀ : > 13.66 L/ha (> 1000 g MPCA/ha) (Mortality); ER ₅₀ : > 13.66 L/ha (> 1000 g MPCA/ha) (Reproduction) Corresponding to $> 3.14 \times 10^{11}$ CFU/ha
No product classification required.	
<u>Effects on other terrestrial invertebrates</u>	
Naturalis	Earthworms (<i>Eisenia foetida</i>): LC ₅₀ (Mortality): > 1000 mg Naturalis/kg artificial soil. > 2.3×10^7 CFU/kg artificial soil
No product classification required.	
<u>Effects on soil microorganisms</u>	
Naturalis	1.29 and 12.87 mg Naturalis/kg soil dry weight, corresponding to 1 and 10 L Naturalis/ha or 0.092 and 0.92 mg as/kg or 2.98×10^4 and 29.8×10^4 CFU/kg, silty sand soil (pH 6.70). Short-term respiration: Deviation from control after 28 days < 25% in both concentrations. Nitrogen turnover: Deviation from control in the lower concentration after 28 days: < 25% Deviation from control at highest concentration after 28 days: > 25% Deviation from control at highest concentration after 56 days: < 25
No product classification required.	
12.2. Persistence and degradability	
This product has low persistence and their components are easily biodegradable.	
12.3. Bioaccumulative potential	
Not bioaccumulable.	
12.4. Mobility in soil	
Conidia of <i>Beauveria bassiana</i> strain ATCC 74040 are not very mobile in soil and generally remain on the surface of soil. The movement of conidia vertically, through the soil profile, is positively correlated with high infiltration rates in soil.	
12.5. Results of PBT and vPvB assessment	

No PBT and vPvB assessment is carried out for the product.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Product which is not used should be disposed of in accordance with all local regulations for the treatment of not toxic products. The product can be disposed of in a waste facility or in a landfill. If local and state regulations permit, the unused product can be incinerated.

Empty containers can have residues and are subject to proper waste disposal. After triple rinse can be offered for recycling. Do not reuse as a container.

SECTION 14: Transport information

Product is not classified as hazardous in accordance with the provisions of the current legislation governing the transport of dangerous goods by road (ADR), by Rail (RID), by sea (IMDG Code) and by air (IATA).

In accordance with ADR / RID / IMDG / IATA / AND.

14.1. UN number

No dangerous good in sense of transport regulations.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Other information: No supplementary information available.

14.6. Special precautions for user

Overland transport: No additional information available.

Transport by sea: No additional information available.

Air transport: No additional information available.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

No substance-specific regulations apply.

Labelling according to EU guidelines: the product has been classified and labelled in accordance with EU Directives/Ordinances on Hazardous Materials.

Code letter and designation of product: not classified.

Mixture evaluated according to Directive 91/414/EEC and Regulation (EC) 1107/2009.

UK registration: No. 17526 dated 14/03/2016.

15.2. Chemical safety assessment

No chemical safety assessment according to article 14 of Regulation (EC) 1907/2006 has been done. The active substance(s) of the mixture are considered to be registered under REACH according to article 15 of Regulation (EC) 1907/2006.

SECTION 16: Other information

Full text of hazard phrases (H) mentioned in SECTION 2 and SECTION 3:

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Key literature references and sources for data:

- Regulation EC No. 1272/2008 (CLP) (and subsequent amendments and modification.)
- Regulation EC No. 1907/2006 (REACH) (and subsequent amendments and modification.)

Remarks:

The Safety Data Sheet complies with Regulation (EC) No. 1272/2008 (CLP) and Regulation (EC) No. 830/2015.



NATURALIS-L
SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Issue date: 20.04.2016

Rev. No. 2 of 20.04.2016

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The Safety Data Sheet has been revised on 20/04/2016 in order to comply with new approval certificate. The section 15.1 has been modified.

The information in this security information sheet corresponds to the current situation of our knowledge, but we do not assume any responsibility for it. The users must consider this information only as a complement to other information obtained by themselves and must carry out independent tests of suitability and completeness of the information in order to ensure the proper use and the elimination of these materials, as well as the security and health of employees, customers, and protection of the environment.