

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

1.1. Product identifier

Product form : Mixture
Product name : Botanigard
Product code : LM 048 C1040
Type of formulation : WP (Wettable powder)
Active Ingredient : *Beauveria bassiana*

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

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

Supplier:

Laverlam International Corporation
117 South Parkmont
Buttle, Montana 59701
United States.

Distributor:

CERTIS UK
Suite 5, 3 Riverside
Granta Park
Great Abington
Cambridgeshire CB21 6AD
United Kingdom
Tel: +44 (0)845 373 0305
Fax: +44 (0)1223 891210
Email: certis@certiseurope.co.uk
Website: www.certiseurope.co.uk

1.4. Emergency telephone number

Emergency number : Certis Carechem24 multilingual 24 hours emergency number: +44 (0) 870 190 6777.
For further advice for medical professionals:
The National Poisons Information Service: +44 (0) 870 600 6266.
For further advice for veterinary surgeons: +44 (0) 20 7635 9195
Dublin - National Poisons Information Centre, Beaumont Hospital, Dublin 9:
Available from 8 am to 10 pm - 7 days: +353 (01) 809 2166
Available 24hrs: +353 (01) 809 2566

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Resp. Sens. 1 H334

Skin Sens. 1 H317

Full text of H-phrases: see section 16

2.2. Label elements

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

Hazard pictograms (CLP)



GHS08

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H317 - May cause an allergic skin reaction.
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements (CLP)

: P271 - Use only outdoors or in a well-ventilated area.
 P302 + P352 - IF ON SKIN: Wash with plenty of water.
 P310 - Immediately call a POISON CENTER/doctor.
 P363 - Wash contaminated clothing before reuse.

EUH phrases

: EUH208 - Contains *Beauveria bassiana*. May produce an allergic reaction.
 EUH401 - To avoid risks to human health and the environment, comply with the instructions for use.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable.

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
<i>Beauveria bassiana</i>	(CAS No) 63428-82-0	10-< 25	Skin Sens. 1, H317

Full text of H-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

: In the event of any complaints or symptoms, avoid further exposure.

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

First-aid measures after inhalation	: IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.
First-aid measures after skin contact	: IF ON SKIN: Wash with plenty of water and neutral soap. In case of modifications on the skin (stinging, redness, rashes, blisters, ...), seek medical advice: Get medical advice/attention.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with luke warm water for at least 15 minutes, also under eyelides. Do not allow the person affected to rub or close their eyes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist.
First-aid measures after 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

The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

Unsuitable extinguishing media : IT IS NOT RECOMMENDED to use tap water as an extinguishing agent.

5.2. Special hazards arising from the substance or mixture

Fire hazard : The product is non-flammable.

Combustion or thermal decomposition may generate toxic vapours.

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.

Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit, ...) in accordance with Directive 89/654/EC.

Protection during firefighting : Wear suitable protective clothing, gloves, eye/face protection and respiratory protection
Wear a self-contained breathing apparatus.

Additional provisions : Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Protective equipment : Wear suitable protective clothing, gloves and eye/ face protection.
- 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

No additional information available.

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
- 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.

6.4. Reference to other sections

Reference to other sections (8, 13).

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Avoid breathing dust.
- In case of insufficient ventilation, wear suitable respiratory protection.
- Wear suitable protective clothing, gloves and eye/face protection.
- Technical recommendations for the prevention of fires and explosions : Product is non-flammable under normal conditions of storage, manipulation and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.
- 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 : 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 : Minimum Temp: 5 °C
- Maximum Temp: 30 °C

Shelflife	: Botanigard WP must be used within 24 months of the production date.
Storage area	: Store in dry, cool, well-ventilated area.
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

In accordance with the order of importance to control professional exposure (Directive 98/24/EC) it is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding the professional exposure limits. In case of using individual protection equipment they should have the "CE marking" in accordance with Directive 89/686/EC.

8.2. Exposure controls

Appropriate engineering controls	: Emergency eye wash fountains according to the standards ANSI Z358-1, ISO 3864-1:2002 should be available in the immediate vicinity of any potential exposure. Safety showers according to the standards DIN 12 899, ISO 3864-1: 2002 should be available.
Mandatory hand protection	: Wear impervious gloves resistant to chemical. Nitrile rubber or butyl rubber.(EN 374-4). Replace the gloves at any sign of deterioration.
Eye protection	: Mandatory face protection. Panoramic glasses against liquid splash: EN 166: 2001 EN ISO 4007: 2012
Skin and body protection	: Protective clothing with long sleeves waterproof and resistant to chemicals. Anti-slip work shoes. Shoes plus socks: EN ISO 2034: 2017
Respiratory protection	: Mandatory respiratory tract protection. Filter mask for gases, vapors and particles: EN149: 2001 + A1: 2009 EN 405: 2001 + A1: 2009 Replace when an increase in resistance to breathing is observed and/or a small or test of the containment is detected.
Hygiene measures	: 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.
Volatil organic compounds	: V.O.C. (Supply): 0 % weight V.O.C. density at 20 °C: 0 kg/m ³ (0 g/L) Average carbon number: Non-applicable Average molecular weight: Non-applicable

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder
Colour	: Whitish
Odour	: Dusty

pH at 20°C	: 6,3
Flash point	: 182 °C
Auto-ignition temperature	: 260 °C
Flammability (solid, gas)	: Lower flammability limit: 0,9% Upper flammability limit: 7%
Vapour pressure	: Non-applicable
Relative vapour density at 20 °C	: No data available
Density at 20°C	: 0,88 g/cc
Solubility	: 100% in water
Viscosity, kinematic	: Non-applicable
Viscosity, dynamic	: Non-applicable
Explosive properties	: Little or no explosive properties.
Oxidising properties	: Little or 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

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur.

Is not explosive and does not exhibit oxidant properties.

10.4. Conditions to avoid

Avoid sources of heat, radiation, static electricity.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Combustion or thermal decomposition may generate toxic vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Botanigard	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 1.0 X 10 ¹¹ CFU/ animal
LC50 inhalation rat	> 1.0 x 10 ⁸ CFU/ animal

Active ingredient	
LD50 dermal rabbit	> 1.0 X 10 ¹¹ CFU/ animal
LC50 inhalation rat	> 1.0 x 10 ⁸ CFU/ animal

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified

SECTION 12: Ecological information

12.1. Toxicity

<i>Beauveria bassiana</i>	
EC50 Daphnia	>9,3 x 10 ⁸ CFU/L
Avian Toxicity	No mortality at 29.45 viable spores/bird (Japanese quail)
NOEC	4.7 x 10 ⁸ CFU
NOEC	<7,5 x 10 ⁸ (<i>Pimephales promelas</i>)

12.2. Persistence and degradability

Botanigard	
Persistence and degradability	This product has low persistence and their components are easily biodegradable

12.3. Bioaccumulative potential

Botanigard	
Bioaccumulative potential	Not bioaccumulable.

12.4. Mobility in soil

<i>Beauveria bassiana</i>	
Ecology - soil	Conidia of <i>Beauveria bassiana</i> 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 additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of in accordance with relevant local regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

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

14.6.1. Overland transport

No additional information available

14.6.2. Transport by sea

No additional information available

14.6.3. 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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH candidate substance

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes:

Change date	Previous Version	Section	Changed Item	Change	Comments
18/06/2015	1.1	2.2	Hazard pictograms: GHS07	removed	According to Supplier SDS (V1. 2015)
			Hazard pictograms: GHS08	added	According to Supplier SDS (V1. 2015)
			EUH208	added	According to Supplier SDS (V1. 2015)
		3.2	Distillates, Poly, alpha, omega	Removed	According to Supplier SDS (V1. 2015)
		7.2	Storage temperature and time	added	According to Supplier SDS (V1. 2015)
		8.2	Personal protection	updated	According to Supplier SDS (V1. 2015)
		9	Physical and chemical properties	updated	According to Supplier SDS (V1. 2015)
26/06/2015	1.2	2	P271, P310, P363	added	According to Supplier SDS (V1. 2015, R2)
			P261, P280, P304+P341, P411, P501	removed	According to Supplier SDS (V1. 2015, R2)
26/08/2016	1.3		General update		According to Supplier SDS (V1 2016)
24/.4/2018	1.4		Emergency number	updated	

31.05.2018	1.7	7	Shelflife: 12 months	modified	According to a new study. Requested by B. Easterbrook
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Full text of H- and EUH-phrases:

Resp. Sens. 1	Sensitisation — Respiratory, category 1
Skin Sens. 1	Sensitisation — Skin, category 1
H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled