



SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

1.1. Identification of the substance or preparation:
BOTANIGARD® ES

1.2 Use of the substance / preparation
Biological insecticide

1.3. Company / undertaking identification:
LAM INTERNATIONAL CORPORATION
117 South Parkmont
Butte, Montana 59701
United States
Tel: +1 406 782 2386
Fax: +1 406 782 9912
E-mail: info@lamintl.com

1.4. Emergency telephone
ChemTel: 800-255-3924
EPA National Response Center: 800-424-8802

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

CLP Regulation (EC) n° 1272/2008:

Classification of this product has been carried out in accordance with CLP Regulation (EC) n° 1272/2008.

Resp. Sens. 1: Sensitization, respiratory, Category 1

Skin Sens. 1: Sensitization, dermal, Category 1

2.2 Label elements

CLP Regulation (EC) n° 1272/2008:

Danger



Hazard Indications:

Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1: H317 - May cause an allergic skin reaction.

Cautionary advice:

P271: Use only outdoors or in a well-ventilated area.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



P310: Immediately call a POISON CENTER or doctor/physician.

P363: Wash contaminated clothing before reuse.

Supplementary information:

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.

Substances that contribute to the classification

Beauveria bassiana;

2.3 Other hazards

Non-applicable

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical description: Mixture of substances

Components:

In accordance with Annex II of Regulation (EC) n°1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 63428-82-0	Beauveria bassiana Self Classified	10 -< 25%
EC:		
Index: REACH:	Regulation 1272/2008 Resp. Sens. 1: H334; Skin. Sens 1: H317 – Danger	

To obtain more information on the risk of the substances consult sections 8, 11, 12 and 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures:

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 MSDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. 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.

By skin contact:

In case of contact it is recommended to clean the affected area thoroughly with water and neutral soap. In case of modifications on the skin (stinging, redness, rashes, blisters,...), seek medical advice with this Security Data Sheet

By eye contact:

Rinse eyes thoroughly with luke warm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the MSDS of the product.

By consumption:

In case of consumption, seek immediate medical assistance showing the MSDS of this product.

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

No symptoms or delayed effects.

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

Non-applicable



5. FIRE – FIGHTING MEASURES

5.1 Extinguishing media:

Product is non-flammable under normal conditions of storage, manipulation and use. 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. IT IS NOT RECOMMENDED to use tap water as an extinguishing agent.

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive subproducts are created (CO₂, CO, NO_x,...) that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

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.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have

6.2 Environmental precautions:

Product not classified as dangerous for the environment, however it is necessary to avoid spillage as the product is classified as dangerous for health and/or its physicochemical properties.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- 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.

- C.- Technical recommendations to prevent ergonomic and toxicological risks
Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.
- D.- Technical recommendations to prevent environmental risks
It is recommended to have absorbent material available at close proximity to the product (See epigraph 6.3).

7.2 Conditions for safe storage, including any incompatibilities:

- A.- Technical measures for storage

Minimum Temp.: 5 °C
Maximum Temp.: 30 °C
Maximum time: 18 Months

- B.- General conditions for storage
Avoid sources of heat, radiation, static electricity and contact with food

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the work environment
There are no environmental limits for the substances contained in the product.

DNEL (Workers):

Non-applicable

DNEL (Population):

Non-applicable

PNEC:

Non-applicable

8.2. Exposure controls

- A.- General security and hygiene measures in the work place.

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. For more information on individual protection equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For additional information see epigraph 7.1

B.- Respiratory protection.

LRP Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases, vapours and particles		EN 149:2001+A1:2009 EN 405:2001+A1:2009	Replace when an increase in resistance to breathing is observed and/or a smell or taste of the contaminant is detected.

C.- Specific protection for the hands.

LRP Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Chemical protective gloves		EN 374-1:2003 EN 374-3:2003/AC:2006 EN 420:2003+A1:2009	Replace the gloves at any sign of deterioration.



D.- Ocular and facial protection

LRP Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Panoramic glasses against liquid splash		EN 166:2001 EN 172:1994/A1:2000 EN 172:1994/A2:2001 EN 165:2005	Clean daily and disinfect periodically according to the manufacturer's instructions.

E.- Bodily protection

LRP Pictogram	PPE	Labelling	CEN Standard	Remarks
	Work clothing		EN 340:2003	For professional use only.
	Anti-slip work shoes		EN ISO 20347:2004/A1:2007 EN ISO 20344:2011	None

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2002	 Eyewash stations	DIN 12 899 ISO 3864-1:2002

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see epigraph 7.1.D.

Volatile organic compounds:

With regard to Directive 1999/13/EC, this product has the following characteristics:

V.O.C. (Supply): 0 % weight

V.O.C. density at 20 °C: 0 kg/m³ (0 g/L)

Average carbon number: Non-applicable

Average molecular weight: Non-applicable



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 20 °C: Liquid

Appearance: Not available

Color: Not available

Odor: Not available

Volatility:

Boiling point at atmospheric pressure: 282 °C

Vapor pressure at 20 °C: 0 Pa

Vapor pressure at 50 °C: 2 Pa (0 kPa)

Evaporation rate at 20 °C: Non-applicable *

Product description:

Density at 20 °C: Non-applicable *

Relative density at 20 °C: Non-applicable *

Dynamic viscosity at 20 °C: Non-applicable *

Kinematic viscosity at 20 °C: Non-applicable *

Kinematic viscosity at 40 °C: Non-applicable *

Concentration: Non-applicable *

pH: Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

Vapor density at 20 °C: Non-applicable *

Partition coefficient n-octanol/water 20 °C: Non-applicable *

Solubility in water at 20 °C: Non-applicable *

Solubility property: Non-applicable *

Decomposition temperature: Non-applicable *

Flammability:

Flash Point: 162 °C

Autoignition temperature: 260 °C

Lower flammability limit: Non-applicable *

Upper flammability limit: Non-applicable *

9.2 Other information:

Surface tension at 20 °C: Non-applicable *

Refraction index: Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.



10. STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected if the following technical instructions storage of chemicals. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the conditions no hazardous reactions are expected to produce a pressure or excessive temperatures.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

10.5 Incompatible materials:

Acids	Water	Combustive materials	Combustible materials	Others
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

10.6 Hazardous decomposition products:

See epigraph 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

No experimental information is available on the mixture itself in relation to the toxicological properties. When performing the danger classification on corrosive or irritant effects the recommendations included in section 3.2.5 of Annex VI of directive 67/548/EC, in paragraphs b) and c) of section 3 of article 6 of Directive 1999/45/EC and in section 3.2.3.3.5. of Annex I of CLP Regulation were taken into account.

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A.- Ingestion:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for consumption. For more information see section 3.

B- Inhalation:

Exposure in high concentrations can cause a breakdown in the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion and in serious cases, loss of concentration.

C- Contact with the skin and the eyes:

Produces serious eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.

E- Sensitizing effects:

Prolonged contact with the skin can result in specific respiratory hypersensitivity.

F- Specific target organ toxicity (STOT)-time exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.



H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

Not available

12. ECOLOGICAL INFORMATION

The experimental information related to the ecotoxicological properties of the mixture itself is not available

12.1 Toxicity:

Not available

12.2 Persistence and degradability:

Not available

12.3 Bioaccumulative potential:

Not available

12.4 Mobility in soil:

Not available

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class (Directive 2008/98/EC)
02 01 08*	Agrochemical waste containing dangerous substances	Dangerous

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2000/532/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) n°1907/2006 (REACH) the community or state provisions related to waste management are stated.

Community legislation: Directive 2008/98/EC, 2000/532/EC: Commission Decision of 3 May 2000

14. TRANSPORT INFORMATION

This product is not regulated for transport (ADR/RID,IMDG,IATA)



15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Candidate substances for authorization under the Regulation (EC) 1907/2006 (REACH): Non-applicable.

Regulation (EC) 1005/2009, about substances that deplete the ozone layer: Non-applicable.

Active substances for which a decision of non-inclusion onto Annex I or IA of Directive 98/8/EC: Non-applicable.

Regulation (EC) 689/2008, in relation to the import and export of hazardous chemical products: Non-applicable.

Limitations to commercialization and the use of certain dangerous substances and mixtures (Annex XVII, REACH):

Non-applicable.

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

Non-applicable

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

16. OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) N° 1907/2006

Modifications related to the previous security card which concerns the ways of managing risks. :

Non-applicable

Text of R-phrases considered in section 3:

CLP Regulation (EC) n° 1272/2008:

Skin Sens. 1: H317 - May cause an allergy skin reaction.

Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

<http://esis.jrc.ec.europa.eu>

<http://echa.europa.eu>

<http://eur-lex.europa.eu>

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Appropriate warnings and safe handling procedures should be provided to handlers and users.