SAFETY DATA SHEET

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

1.1 Identification of the substance or preparation:
BOTANIGARD® 22WP

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:
Directive 67/548/EC and Directive 1999/45/EC:
This product was classified in accordance with Directive 67/548/EC and Directive 1999/45/EC, adapting the requirements to
Xn: R42/43 - May cause sensitization by inhalation and skin contact

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.
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.

### 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:

<table>
<thead>
<tr>
<th>Identification</th>
<th>Chemical name/Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 63428-82-0</td>
<td><em>Beauveria bassiana</em></td>
<td>Self Classified</td>
</tr>
<tr>
<td>EC: Index:</td>
<td>Regulation 1272/2008</td>
<td></td>
</tr>
<tr>
<td>REACH:</td>
<td>Skin. Sens 1: H317 – Danger</td>
<td></td>
</tr>
</tbody>
</table>

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, NOx,…) 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 protection.

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 ºC
      Maximum Temp.: 30 ºC
      Maximum time: 12 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.

<table>
<thead>
<tr>
<th>LRP Pictogram</th>
<th>FPE</th>
<th>Labelling</th>
<th>CEN Standard</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>EN 405:2001+A1:2009</td>
<td>Replace when an increase in resistance to breathing is observed and/or a small or taste of the contaminant is detected.</td>
</tr>
</tbody>
</table>

C.- Specific protection for the hands.
### 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: Powder
- Appearance: Powder
- Color: Whitish
- Odor: Dusty
Volutility:
Boiling point at atmospheric pressure: 260 °C
Vapor pressure at 20 °C: Non-applicable *
Vapor pressure at 50 °C: Non-applicable *
Evaporation rate at 20 °C: Non-applicable *

Product description:
Density at 20 °C: 0.88 g/cc*
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 at 20°C: 6.3
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: 182 °C
Autoignition temperature: 260 °C
Lower flammability limit: 0.9%
Upper flammability limit: 7%

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:
10.5 Incompatible materials:

<table>
<thead>
<tr>
<th></th>
<th>Acids</th>
<th>Water</th>
<th>Combustible materials</th>
<th>Combustible materials</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock and friction</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Contact with air</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Increase in temperature</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Sunlight</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Humidity</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

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 Risks
This product is classified as harmful (Xn)

11.2 Acute toxicity
- Acute Oral DL50 (Rats): > 5000 mg/kg bw
- Acute Dermal DL50 (Rabbits): Active substance > 1.0x10^11 CFU/animal (rabbits)
- Acute Inhalation Toxicity CL50 (Rat): Active substance > 1.0x10^8 CFU/animal (rat)
- Skin irritation: Non irritant
- Eye irritation: Non irritant

11.3 Chronic toxicity
- Carcinogenicity: Unnecessary
- Reproductive toxicity: Unnecessary
- Teratogenic effects: Unnecessary
- Mutagenic effect: No mutagen

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity
This product is not classified as dangerous for environment

Avian toxicity: Active ingredient: No mortality at 29.45 viable spores / bird (Japanese quail)
Effects on fish: Active ingredient: NOEC < 7.5 x 10^8 (Pimephales promelas)
Effects on Daphnia: Active ingredient: EC50>9.3x10^6 CFU/L NOEC 4.7X10^8 CFU/L

12.2. Mobility
Conidia of _Beauveria bassiana_ strain GHA (active ingredient) 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.

12.3. Persistence and degradability
This product has low persistence and their components are easily bio-degraded

12.4. Bioaccumulative potential
This product contains biodegradable molecules and spores of a natural occurring soil microorganism. There is not bioaccumulative potential.

12.5. Results of PBT assessment
This product does not contains any compound with bioaccumulative or toxic potential
12.6. Other adverse effects
None

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Waste class (Directive 2008/98/EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 01 08*</td>
<td>Agrochemical waste containing dangerous substances</td>
<td>Dangerous</td>
</tr>
</tbody>
</table>

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.

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) Nº 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 allergic skin reaction.

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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