

Opti-Bac® L

SAFETY DATA SHEET

Revised: May 2015

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SECTION 1: IDENTIFICATION

1.1. Product Identifier:

Material name: *Bacillus licheniformis*
Trade name: Opti-Bac L
Product number: 2235

1.2. Manufacturer/Supplier:

Huvepharma Inc. 3360 Maury Avenue St. Louis, MO 63116	Huvepharma, Inc. 525 Westpark Drive, Suite 230 Peachtree City, GA 30269 Telephone: 1-770-486-7212 Emergency telephone: 1-877-994-4883 Contact e-mail: customerservice@huvepharma.us
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1.3. Relevant identified uses and any restrictions:

Intended use: Feed additive for chicken and swine which is intended as a stabilized source of *Bacillus licheniformis*.
Restrictions on use: For animal use only. Not for human use.

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the chemical: This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Health: 1
Fire: 0
Reactivity: 0

2.2. Signal word: Warning

2.3. Statement of hazard:

Dust may irritate eyes and the respiratory system.
Frequent inhalation of dust over a long period of time increases the risk of developing lung disease.
This product contains no ingredients listed on the NTP, OSHA or IARC carcinogen list.

2.4. Precautionary statement(s): See First Aid Measures Section

2.5. Description of any hazards not otherwise classified:

The harmful effects of the product in the environment are considered to be limited.

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SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous

Ingredient	CAS Number	%
<i>Bacillus licheniformis</i> spores		1 - 5
Calcium carbonate		95 - 99

Additional information: Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

SECTION 4: FIRST-AID MEASURES

4.1. First aid measures:

- **Eye contact:** Immediately flush with plenty of water for 15 minutes. Remove contact lenses and open eyelids widely. If irritation persists, seek medical attention and bring along these instructions.
- **Skin contact:** Remove contaminated clothing and rinse skin with water.
- **Ingestion:** Immediately rinse mouth and drink 8-12 oz of water.
- **Inhalation:** Remove to fresh air and keep at rest. In case of persistent throat irritation or coughing, seek medical attention and take along these instructions.

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

Symptoms and effects of exposure: None known.

Medical conditions aggravated by exposure: None known.

4.3. Recommended immediate medical attention and special treatment needed: Treat symptomatically.

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SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media:

Use fire-extinguishing media appropriate for surrounding materials.

5.2. Specific hazards arriving from the substance or mixture:

None specific. The explosion limits and flash point are stated in Section 9.

5.3. Advice for firefighters:

Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions and protective equipment:

Avoid generation and spreading of dust. Follow precautions for safe handling described in this safety data sheet. For personal protection, see Section 8.

6.2. Emergency procedures: Not applicable.

6.3. Methods and materials for containment:

Avoid discharge into drains, water courses or onto the ground.

6.4. Cleanup procedures:

Use a vacuum cleaner or flush contaminated area with plenty of water. For waste disposal, see Section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling:

Avoid inhalation of dust and contact with skin and eyes. Handle in accordance with GMP. Keep the workplace clean. Use work methods which minimize dust production. Local exhaust is recommended.

7.2. Conditions for safe storage, including any incompatibilities:

Store dry in a tightly closed original container at temperatures below 37°C. Store in a dry place.

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SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters:

8.1. Exposure controls:

Provide adequate ventilation. Observe Occupational Exposure limits and minimize the risk of inhalation of dust.

Chemical Name	Exposure Limits	Type	Notes	References
Calcium carbonate				
Total inhalable dust	15 mg/m ³	TWA	-	OSHA
Respirable dust	5 mg/m ³	TWA	-	OSHA
Calcium carbonate	10 mg/m ³	TWA	-	ACGIH

8.2. Engineering controls:

In case of inadequate ventilation use suitable respirator.

8.3. Personal protective measures:

- Hands: Gloves are recommended for prolonged use. Wash hands after contact.
- Eyes: Use tight fitting goggles if dust is generated.
- Skin: No special precautions.
- Respiratory protection: In case of inadequate ventilation use suitable respirator.

8.4. Special requirements for PPE, protective clothing or respirators:

It is recommended to use NIOSH-approved respiratory equipment, e.g. P100 filter (e.g. 3M 8293 mask).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Physical and chemical properties:

- Appearance: White, powder
- Upper/lower flammability or explosive limits: Not relevant
- Odor: Odorless
- Vapor pressure: No data available
- Odor threshold: No data available
- Vapor density: No data available
- pH: Not relevant
- Relative density: 1.24

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| • Melting point/freezing point: | Not applicable |
| • Solubility(ies): | Insoluble in water. Spores are suspendable. |
| • Initial boiling point and boiling range: | Not applicable |
| • Flash point: | Not relevant |
| • Evaporation rate: | No data available |
| • Flammability (solid, gas): | No data available |
| • Partition coefficient: n-octanol/water: | No data available |
| • Auto-ignition temperature: | No data available |
| • Decomposition temperature: | Not relevant |
| • Viscosity: | Not relevant |
| • Specific gravity: | No data available |

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: No data available.

10.2. Chemical stability:

Stable under normal temperature conditions and recommended use.

10.3. Other:

- **Possibility of hazardous reactions:** None known.
- **Conditions to avoid:**
None that are known.
- **Incompatible material:**
None that are known.
- **Hazardous decomposition products:**
None that are known.

SECTION 11: TOXICOLOGICAL INFORMATION**Information on Toxicological Effects General Information:**

The information included in this section describes the potential hazards of the active ingredient(s).

Routes of exposure:

Inhalation, ingestion, skin, and eyes.

Delayed, immediate, or chronic effects from short- and long-term exposure:

- Inhalation: Dust may irritate the respiratory system. Inhalation of high concentrations of dust may cause toxic alveolitis. Symptoms like fever, cold-shivering, coughing, difficulties in breathing, headache, muscle and joint pains, etc. may appear 6 to 8 hours after exposure. The symptoms normally disappear completely over night without any treatment. May contain very small amounts of a sensitizing substance which may cause sensitization by inhalation in sensitive individuals.
- Ingestion: May irritate.
- Skin: Dust has an irritating effect on moist skin.
- Eye: Dust in eyes may cause irritation.

Numerical measures of toxicity: Not applicable.

Symptoms related to the physical, chemical and toxicological characteristics:

Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Prolonged exposure to dust/aerosols containing microorganisms may cause allergic alveolitis.

Carcinogen Status: None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA.

SECTION 12: ECOLOGICAL INFORMATION**Environmental overview:**

No environmental data for the mixture or formulation. The environmental information for ingredient(s) or related material(s) are presented.

12.1. Toxicity:

The harmful effects of the product in the environment are considered to be limited.

12.2. Persistence and degradability:

The product is not biodegradable.

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12.3. Bioaccumulation potential:

Is not expected to be bioaccumulable.

12.4. Mobility in soil:

The product contains substances which is insoluble in water and will sediment in water symptoms.

12.5. Other adverse effects:

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

SECTION 14: TRANSPORT INFORMATION

The following refers to all modes of transportation unless specified below.

The product is not covered by international/national regulation on the transport of dangerous goods (IMDG, IATA, DOT).

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SECTION 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

NFPA Rating: Health: 1 Fire: 0 Reactivity: 0 Other: -

Information on TSCA, CERCLA, SARA 313 and 302, CAA:

	TSCA	CERCLA	SARA 313	SARA 302	CAA
Calcium carbonate	Yes	No	No	No	No
<i>Bacillus licheniformis</i>	Yes	No	No	No	No
Anticaking agent	Yes	No	No	No	No

EC - Labeling: Based on our information on the chemical composition of the product, the product is not liable to classification.

Specific Provisions: State and local regulation may apply.

SECTION 16: OTHER INFORMATION

Prepared by: VJ

Issuing date: 5/30/2015

Revision: 1

Huvepharma, Inc. believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.

End of Safety Data Sheet