

SECTION 1: IDENTIFICATION

1.1. Product Identifier:

Material name: *Trichoderma longibrachiatum*
Trade name: Hostazym 1.0, Hostazym X 100, Hostazym X 250
Product number: 2190, 2140, 2380

1.2. Manufacturer/Supplier:

Biovet JSC	Huvepharma, Inc.
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4550 Peshtera, Bulgaria	Peachtree City, GA 30269
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1.3. Relevant identified uses and any restrictions:

Intended use: Feed additive classified under category 4 “zootechnical additives”, functional group (a) “digestibility enhancers”, subclassification “enzymes”.

Restrictions on use: For animal use only. Not for human use.

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the chemical: This preparation is not classified as dangerous according to Regulation (EC) No. 1272/2008 of December 2008.

2.2. Signal word: Danger

2.3. Statement of hazard:

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

2.4. Precautionary statement(s):

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P285: In case of inadequate ventilation, wear respiratory protection.

P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P342 + P311: If experiencing respiratory symptoms, call a poison control center or physician.

2.5. Description of any hazards not otherwise classified:

None.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS**Hazardous**

Ingredient	CAS Number	%
<i>Trichoderma longibrachiatum</i>	N.A.	*
Wheat Flour	N.A.	*
Potato Starch	N.A.	*
Rice Hulls	N.A.	*
Calcium Carbonate	N.A.	*
Hubercarb	N.A.	*
Mineral Oil, USP NF	N.A.	*

*Additional information is proprietary.

SECTION 4: FIRST-AID MEASURES**4.1. First aid measures:**

- **Eye contact:** In case of contact with eyes, rinse immediately for at least 15 minutes with plenty of water.
- **Skin contact:** In case of contact with skin, wash off with water.
- **Ingestion:** No special measures necessary. Rinse mouth thoroughly with water.
- **Inhalation:** When inhaled, seek medical advice and show the physician the label.

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.

SECTION 5: FIRE-FIGHTING MEASURES**5.1. Extinguishing media:**

Water spray or foam are appropriate for surrounding fire and materials.

5.2. Specific hazards arriving from the substance or mixture:

As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.

5.3. Advice for firefighters:

As with all dry powders, take precautionary measures against static discharges by grounding mechanical equipment in contact with dry material to dissipate the potential build-up of static electricity.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions and protective equipment:**

Avoid dust formation. Use personal protective clothing.

6.2. Emergency procedures: Not applicable.**6.3. Methods and materials for containment:**

Clean up with vacuum cleaner. Avoid raising dust. Clean contaminated floors and objects thoroughly, observing environmental regulations.

6.4. Cleanup procedures:

See Section 6.3. For waste disposal, see Section 13.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling:**

Wear suitable protective equipment while handling the product. The use of local exhaust hood and general exchange in the premise is recommended.

7.2. Conditions for safe storage, including any incompatibilities:

Protect from moisture and heat.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**Control Parameters:****8.1. Exposure controls:**

Do not inhale dust/mist. Do not inhale aerosols. Avoid contact with eyes and skin.

8.2. Engineering controls:

In case of inadequate ventilation use suitable respirator.

8.3. Personal protective measures:

- Hands: Rubber gloves. Wash hands after contact.
- Eyes: Use tight fitting goggles if dust is generated.
- Skin: Protective clothing.
- 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: | Solid granules; beige |
| • 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: | No data available |
| • Melting point/freezing point: | Not applicable |
| • Solubility(ies): | Soluble. |
| • Initial boiling point and boiling range: | Not applicable |
| • Flash point: | Minimum cloud ignition temp.: 480° C
Minimum layer ignition temp.: 450° C |
| • 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 at normal temperatures, pressures and humidity.

10.3. Other:

- **Possibility of hazardous reactions:** None known.
- **Conditions to avoid:**
Elevated temperatures and humidity and direct sunlight.
- **Incompatible material:**
Water and acidic conditions (hydrochloric acid) combined with elevated temperature.
- **Hazardous decomposition products:**
None that are known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1.1 Acute Toxicity

Acute Oral Toxicity

Rats, LD₅₀ > 2000mg/kg of purified fermentation product/kg b.w.

Sub-Chronic Repeated Dose Oral Toxicity

Rats

13 week administration at levels up to 1000 mg/kg of purified Fermentation product per day produced no signs of toxicity attributable to administration of xylanase.

11.1.2 Subchronic/Chronic Toxicity

Rats

90 day administration at doses of up to 1000 mg purified endo-1, 4-beta-xylanase per kg was safe and well tolerated (revealed no abnormalities related to the treatment).

Effects on Respiratory System:

Enzymes are considered respiratory sensitizers. Adequate labeling is provided for the present product. The actual risk will be very small since the additive appears in granulated form and particle size is such that the inhalable fraction is very low.

Skin and Eye Sensitization:

Enzymes are considered skin and eye sensitizers. Adequate labeling is provided for the present product. The actual risk will be very small since the additive appears in granulated form.

Genotoxicity Including Mutagenicity:

The additive cannot be considered as a potential mutagenic additive as the results from two mutagenicity tests performed with the purified fermentation product were both negative: Bacterial reverse mutation test and In-vitro Mammalian Chromosomal Aberration Test.

Other Types of Toxicity:

Based on the experience that the strain is safe and the other toxicological studies did not raise any concern, no chronic oral toxicity (including carcinogenicity), reproduction toxicity, teratogenicity studies were performed.

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

The enzyme is degraded in the gastro-intestinal tract, and as it is of proteinaceous material any remaining material will further degrade in nature. No accumulation will take place.

SECTION 13: DISPOSAL CONSIDERATIONS

Do not empty into drains. This material and its container must be disposed of in a safe way in compliance with all the State and local regulations.

SECTION 14: TRANSPORT INFORMATION

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

IMDG (by sea): In dry closed premises.

ADR (by road): Use closed vehicles.

RID (by rail): Use closed cars.

ICAO/IATA (by air): No limits.

SECTION 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture: None.

Specific Provisions: State and local regulation may apply.

SECTION 16: OTHER INFORMATION

Prepared by: GH

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End of Safety Data Sheet