

# SAFETY DATA SHEET



First you add knowledge...

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** Porzyme® TP-100(HP)  
**Material Number** PTPB  
**Chemical nature** Enzyme Preparation.  
**Formula** Not applicable.  
**Synonyms** Not applicable.  
**Recommended Use** Animal feed  
**Company/undertaking identification:** Danisco Animal Nutrition  
PO Box 777  
Marlborough  
Wiltshire SN81XN  
United Kingdom  
Tel: +441672 517777  
Fax: +441672 517778  
**E-mail Address** SDS.Genencor@Danisco.com  
**Emergency telephone:** +1 (319) 368-7657

## 2. HAZARDS IDENTIFICATION

**Potential Health Effects:** Inhalation of enzyme mist/dust may cause allergic respiratory reactions, including asthma, in susceptible individuals on repeated exposure.

**Eyes** May cause slight irritation.  
**Skin** May cause slight irritation.  
**Inhalation:** May cause slight irritation.  
**Ingestion** Not expected to be toxic by ingestion.

**Aggravated Medical Conditions** Atopy. Asthma.

**Environmental Hazard** See Section 12 for additional Ecological Information.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Description** Enzyme Preparation.

| Chemical Name                     | CAS-No      | %           | OSHA       | ACGIH                             |
|-----------------------------------|-------------|-------------|------------|-----------------------------------|
| Beta Glucanase (fungal)           | 62213-14-3  | 1-5         | Not Listed | Not Listed                        |
| Alpha Amylase (Bacterial)         | 9000-90-2   | <1          | Not Listed | Not Listed                        |
| Subtilisins (proteolytic enzymes) | 9014-01-1   | <1          | Not Listed | 0.00006 mg/m <sup>3</sup> Ceiling |
| Xylanase                          | 9025-57-4   | <1          | Not Listed | Not Listed                        |
| Wheat flour                       | 130498-22-5 | Proprietary | Not Listed | Not Listed                        |

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**4. FIRST AID MEASURES**

|                           |  |
|---------------------------|--|
| <b>Eye Contact</b>        | Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists. |
| <b>Skin Contact</b>       | Flush skin with large amounts of water. If irritation develops and persists, get medical attention.      |
| <b>Inhalation</b>         | Remove person to fresh air. If signs/symptoms continue, get medical attention.                           |
| <b>Ingestion</b>          | Rinse mouth with water. Get medical attention immediately if symptoms occur.                             |
| <b>Notes to Physician</b> | May cause allergic respiratory reaction.   |

**5. FIRE-FIGHTING MEASURES**

|  |   |
|--|---|
| <b>Flammable Properties</b>                                  | Not flammable.  |
| <b>Suitable Extinguishing Media</b>                          | Standard procedure for chemical fires. Foam. Water.                               |
| <b>Protective Equipment and Precautions for Firefighters</b> | As in any fire, wear self-contained breathing apparatus and full protective gear. |

**6. ACCIDENTAL RELEASE MEASURES**

|                                |  |
|--------------------------------|--|
| <b>Personal Precautions</b>    | Use only with adequate ventilation/personal protection. Avoid breathing dust or spray mist. Avoid formation of dust and aerosols. For personal protection see section 8. |
| <b>Methods for Containment</b> | Prevent further leakage or spillage if safe to do so.  |
| <b>Methods for Cleaning Up</b> | Contain and remove spilled product by mechanical means or with a vacuum cleaner equipped with a high efficiency filter. Avoid formation of aerosol.                      |

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7. HANDLING AND STORAGE

**Handling** Avoid breathing vapors or mists. Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice. For personal protection see section 8.

**Storage** Keep container tightly closed in a dry and well-ventilated place. Additional information available from product literature.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines**

| Chemical Name                     | CAS-No    | ACGIH TLV                          | OSHA<br>8 Hr. TWA: |
|-----------------------------------|-----------|------------------------------------|--------------------|
| Subtilisins (proteolytic enzymes) | 9014-01-1 | Ceiling: 0.00006 mg/m <sup>3</sup> |                    |

**Occupational Exposure Controls**

**Engineering Measures** Ventilation systems.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Personal Protective Equipment**

**Eye/Face Protection** Safety glasses with side-shields.

**Skin and Body Protection** Impervious gloves.

**Respiratory Protection** Use NIOSH approved respiratory protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

|                                   |                 |                                 |                                   |
|-----------------------------------|-----------------|---------------------------------|-----------------------------------|
| <b>Appearance</b>                 | Light brown     | <b>Odor</b>                     | Typical odor of fermented product |
| <b>Physical State</b>             | Granules        | <b>pH</b>                       | Not applicable.                   |
| <b>Flash Point</b>                | Not applicable. | <b>Autoignition Temperature</b> | Not applicable.                   |
| <b>Decomposition Temperature</b>  | Not determined  | <b>Boiling Point/Range</b>      | Not determined                    |
| <b>Melting Point/Range</b>        | Not determined  | <b>Freezing Point</b>           | Not determined                    |
| <b>Flammability Limits in Air</b> | Not applicable. | <b>Explosion Limits</b>         | Not determined                    |
| <b>Water solubility</b>           | Soluble         | <b>Evaporation Rate</b>         | Not determined                    |
| <b>Vapor Pressure</b>             | Not determined  | <b>Vapor Density</b>            | Not determined                    |
| <b>Density</b>                    | Not determined  |                                 |                                   |

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**10. STABILITY AND REACTIVITY**

|   |  |
|---|--|
| <b>Stability</b>                        | Stable under normal conditions.          |
| <b>Incompatible Products</b>            | None known.                              |
| <b>Conditions to Avoid</b>              | None known.                              |
| <b>Hazardous Decomposition Products</b> | None known.                              |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur. |

**11. TOXICOLOGICAL INFORMATION****Product Information****Acute Toxicity**

|                   |                   |
|-------------------|-------------------|
| <b>Oral</b>       | No data available |
| <b>Dermal</b>     | No data available |
| <b>Inhalation</b> | No data available |

**Irritation**

|                               |                      |
|-------------------------------|----------------------|
| <b>Eye irritation</b>         | No data available    |
| <b>Skin irritation</b>        | May cause irritation |
| <b>Respiratory irritation</b> | No data available    |

**Sensitization**

Inhalation of enzyme mist/dust may cause allergic respiratory reactions, including asthma, in susceptible individuals on repeated exposure.

**Systemic toxicity**

No data available

**Mutagenic effects**

No data available

**Reproductive effects**

This product does not contain any known or suspected reproductive hazards.

**Carcinogenicity**

Not classified as a carcinogen by IARC, OSHA, or NTP.

**Component Information**

Component information below is as complete as possible. Any fields not shown indicate no data is presently available.

***Beta Glucanase (fungal)***

**Oral** LD50/oral/rat >2 g/kg Data from similar enzyme.

**Inhalation** LC50/inhalation/4h/rat >2.42 mg/l Data from similar enzyme.

**Systemic toxicity**

In a 90-day feeding study in rats, there were no indications of toxicity or other changes attributed to treatment. A NOAEL can be established at 2000 mg/kg/d. Data from similar enzyme.

**Mutagenic effects**

Negative in the Ames test. Negative in chromosomal aberration using human lymphocytes. Data from similar enzyme.

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## 11. TOXICOLOGICAL INFORMATION

**Alpha Amylase (Bacterial)**

|                          |   |
|--------------------------|---|
| <b>Oral</b>              | LD50/oral/rat 2000 mg/kg  |
| <b>Inhalation</b>        | Single dose rat LC50 3.9 mg/l   |
| <b>Eye irritation</b>    | Not an irritant.  |
| <b>Skin irritation</b>   | Not an irritant.  |
| <b>Systemic toxicity</b> | In a 90-day study with rats, the NOEL was found to be 1000 ppm. In a 14-day feeding study with rats, a NOAEL was established at 5,000 ppm. Data from similar enzyme.  |
| <b>Mutagenic effects</b> | Negative in Ames assay with and without metabolic activation up to 5000 ug/plate. Negative in chromosome aberration using human lymphocytes with and without metabolic activation up to 5000 ug/ml. Data from similar enzyme. |

**Subtilisins (proteolytic enzymes)**

|                               |   |
|-------------------------------|---|
| <b>Acute Toxicity</b>         |   |
| <b>Oral</b>                   | LD50/oral/rat > 2000 mg/kg  |
| <b>Dermal</b>                 | LD50/dermal/rabbit > 2 ml/kg.   |
| <b>Inhalation</b>             | LC50/inhalation/4h/rat 0.8 mg/l   |
| <b>Irritation</b>             |   |
| <b>Eye irritation</b>         | Contact with eyes may cause irritation.   |
| <b>Skin irritation</b>        | May cause skin irritation.  |
| <b>Respiratory irritation</b> | No data available   |
| <b>Sensitization</b>          | Patch test on human volunteers did not demonstrate sensitization properties.  |
| <b>Systemic toxicity</b>      | No data available   |
| <b>Mutagenic effects</b>      | Negative in chromosomal aberration using human lymphocytes. Negative in Ames assay with and without metabolic activation up to 5000 ug/plate. |
| <b>Reproductive effects</b>   | Not expected to produce reproductive or developmental toxicity.   |
| <b>Carcinogenicity</b>        | Not classified as a carcinogen by IARC, OSHA, or NTP.   |

**Xylanase**

|                          |  |
|--------------------------|--|
| <b>Oral</b>              | No data available  |
| <b>Dermal</b>            | No data available  |
| <b>Inhalation</b>        | LC50/inhalation/4h/rat > 5.1 mg/l  |
| <b>Eye irritation</b>    | No data available  |
| <b>Skin irritation</b>   | No data available  |
| <b>Sensitization</b>     | May cause sensitization by inhalation  |
| <b>Systemic toxicity</b> | In a 91-day feeding study in rats, the NOAEL can be established at > 37,500 U/kg/day.                                    |
| <b>Mutagenic effects</b> | Negative in Ames assay up to 5000 ug/plate. Negative in chromosome aberration studies using Chinese hamster ovary cells. |

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12. ECOLOGICAL INFORMATION

**Ecotoxicity effects** Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

**Mobility** Soluble.

**Persistence and Degradability** Enzymes are considered readily biodegradable.

**Bioaccumulation/Accumulation Component Information** Bioaccumulation is unlikely.

| Chemical Name                     | Toxicity to algae  | Toxicity to fish                  | Toxicity to daphnia           | Biodegradation   |
|-----------------------------------|--|-----------------------------------|-------------------------------|--|
| Subtilisins (proteolytic enzymes) | NOEC: 0.63 mg protein/l (48 h) Selenastrum capricornutum | LC50: 16 mg/L(96 h) Rainbow trout | NOEC: 0,5 mg protein/l (48 h) | Average degradation was 55-79% over the test period. Data from similar enzyme. |

13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** In accordance with local and national regulations.

**Packaging** If empty container retains product residues, all label precautions must be observed. Store away from ignition sources. Transport with all closures in place. Return for reuse or dispose according to national or local regulations.

14. TRANSPORT INFORMATION

**Harmonized Tariff Code:** 3507.90.7000 (for enzymes).

**DEPT. OF TRANSPORTATION UN OR NA NUMBER** Not classified as dangerous in the meaning of transport regulations.

**Hazard Class** Not hazardous

**Packing Group** Not applicable

**Reportable Quantity (RQ)** Not applicable

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## 15. REGULATORY INFORMATION

**HAZARD RATING SYSTEMS:****HMIS (SCALE 0-4, WHERE 4=SEVERE HAZARD):** Health: 2 Flammability: 1 Reactivity: 0**U.S. Federal Regulations**

| Chemical Name                     | SARA 313 - Threshold Values % | CERCLA/SARA - Section 302 Extremely Haz |
|-----------------------------------|-------------------------------|---|
| Beta Glucanase (fungal)           | Not listed                    | Not listed                              |
| Alpha Amylase (Bacterial)         | Not listed                    | Not listed                              |
| Subtilisins (proteolytic enzymes) | Not listed                    | Not listed                              |
| Xylanase                          | Not listed                    | Not listed                              |
| Wheat flour                       | Not listed                    | Not listed                              |

**U.S. State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

## 16. OTHER INFORMATION

**Prepared By** M. Laura  
SDS Coordinator**Revision Date** 06/25/2009**Changes since last date of revision:** None.**Disclaimer**

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

END OF SDS