

# SAFETY DATA SHEET



## 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.  
**E-mail Address** SDS.Genencor@Danisco.com  
**Emergency telephone:** +1 (319) 368-7657. a Distribution incident - Spill, Leak, or Accident  
CALL CHEMTREC - 800-424-9300 (within US)  
DuPont registration number 671983

## 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.

**Physical and chemical hazards** Dust can form an explosive mixture in air.

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

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Description** Enzyme Preparation.

Chemical Name	CAS-No	%	OSHA	ACGIH
Wheat flour	130498-22-5	92-98	Not Listed	Not Listed
Endo 1,4 beta-glucanase	62213-14-3	1-5	Not Listed	Not Listed
Xylanase	9025-57-4	<1	Not Listed	Not Listed
Calcium propionate	4075-81-4	<1	Not Listed	Not Listed
Subtilisin	9014-01-1	<1	Not Listed	0.00006 mg/m <sup>3</sup> Ceiling
Alpha Amylase	9000-90-2	<1	Not Listed	Not Listed

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4. FIRST AID MEASURES

<b>Eye Contact</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Skin Contact</b>	IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, seek medical advice/attention.
<b>Inhalation</b>	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
<b>Ingestion</b>	Rinse mouth with water. If swallowed. Call a POISON CENTER or doctor/physician if exposed or you feel unwell.
<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, protective equipment and emergency procedures</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>	Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Clean contaminated surface thoroughly.

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7. HANDLING AND STORAGE

**Precautions for safe handling** Avoid formation of dust and aerosols. Avoid breathing dust or spray mist. Avoid prolonged contact with eyes, skin and clothing.

**Conditions for safe storage, including any incompatibilities** Keep container tightly closed in a dry and well-ventilated place.

**Technical Measures/Precautions** Ensure adequate ventilation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Chemical Name	CAS-No	ACGIH TLV	OSHA 8 Hr. TWA:
Subtilisin	9014-01-1	Ceiling: 0.00006 mg/m <sup>3</sup>	

Occupational Exposure Controls

**Engineering Measures** Process enclosure and/or ventilation systems. Ensure adequate ventilation. Any equipment used to handle this product, should be designed to minimize the escape of aerosols and dust.

**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>	Granules; Light brown Color may vary from batch to batch.	<b>Odor:</b>	Typical odor of fermented product.
<b>Physical State:</b>	Solid	<b>pH</b>	Not determined.
<b>Flash Point</b>	Not applicable.	<b>Autoignition Temperature</b>	Not applicable.
<b>Decomposition Temperature</b>	Not determined.	<b>Boiling Point/Range</b>	Not applicable.
<b>Melting Point/Range</b>	No information available	<b>Flammability Limits in Air</b>	Not applicable.
<b>Explosion Limits</b>	Not determined.	<b>Specific Gravity</b>	Not applicable
<b>Water solubility</b>	Soluble.	<b>Evaporation Rate</b>	Not applicable.
<b>Vapor Pressure</b>	Not applicable.	<b>Vapor Density</b>	Not applicable.
<b>Explosive Properties</b>	Dust can form an explosive mixture in air.		

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10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible Products</b>	None known.
<b>Conditions to avoid</b>	Avoid dust formation. Dust may form explosive mixture in air.
<b>Hazardous Decomposition Products</b>	None known.
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.

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11. TOXICOLOGICAL INFORMATION

**Product Information**

<b>Acute toxicity</b>	
<b>Oral</b>	No data available.
<b>Dermal</b>	No data available.
<b>Inhalation</b>	No data available.
<b>Irritation</b>	
<b>Eye irritation</b>	May cause slight irritation.
<b>Skin irritation</b>	May cause slight irritation.
<b>Respiratory irritation</b>	May cause slight irritation.
<b>Sensitization</b>	Inhalation of enzyme mist/dust may cause allergic respiratory reactions, including asthma, in susceptible individuals on repeated exposure.
<b>Systemic toxicity</b>	There is no data available for this product.
<b>Mutagenic effects</b>	Not expected to cause mutagenic effects.
<b>Reproductive effects</b>	This product does not contain any known or suspected reproductive hazards.
<b>Carcinogenicity</b>	There are no known carcinogenic chemicals in this product.

**Component Information**

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

*Endo 1,4 beta-glucanase*

<b>Oral</b>	LD50/oral/rat >2000 g/kg. LD50/oral/rat >2000 mg/kg.
<b>Inhalation</b>	LC50/inhalation/4h/rat >2.42 mg/l.
<b>Sensitization</b>	Inhalation of enzyme mist/dust may cause allergic respiratory reactions, including asthma, in susceptible individuals on repeated exposure.
<b>Systemic toxicity</b>	In a 90-day 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.
<b>Mutagenic effects</b>	Negative in the Ames test. Negative in chromosomal aberration using human lymphocytes.
<b>Carcinogenicity</b>	Not classified as a carcinogen by IARC, OSHA, or NTP.

*Xylanase*

<b>Inhalation</b>	LC50/inhalation/4h/rat > 5.1 mg/l.
<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 µg/plate. Negative in chromosome aberration studies using Chinese hamster ovary cells.

*Subtilisin*

<b>Oral</b>	LD50/oral/rat =1800 mg/kg.
<b>Dermal</b>	LD50/dermal/rabbit > 2 ml/kg.
<b>Inhalation</b>	LC50/inhalation/4h/rat =0.8 mg/l.
<b>Eye irritation</b>	May cause severe irritation.
<b>Skin irritation</b>	May cause skin irritation.
<b>Respiratory irritation</b>	May cause irritation of respiratory tract.
<b>Sensitization</b>	Patch test on human volunteers did not demonstrate sensitization properties.
<b>Systemic toxicity</b>	In a 90-day feeding study with rats, no evidence of toxicity attributed to treatment was seen at levels up to 50000 ppm/d. A NOAEL was established at > 50000 ppm/d.
<b>Mutagenic effects</b>	Negative in chromosomal aberration using human lymphocytes. Negative in Ames assay with and without metabolic activation up to 5000 µg/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.

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*Alpha Amylase*

**Oral** LD50/oral/rat 2000 mg/kg.  
**Inhalation** Single dose rat LC50 3.9 mg/l.  
**Eye irritation** Not an irritant.  
**Skin irritation** Not an irritant.  
**Systemic toxicity** 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.  
**Mutagenic effects** Negative in Ames assay with and without metabolic activation up to 5000 µg/plate. Negative in chromosome aberration using human lymphocytes with and without metabolic activation up to 5000 µg/ml. Data from similar enzyme.

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

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia	Biodegradation
Subtilisin	NOEC = 0.041 mg protein/l (72 h) (Pseudokirchneriella subcapitata).	LC50: 8.2 mg/L (96 h) Rainbow trout.	EC0/48hr/daphnia 0.17 mg/L.	Readily biodegradable (102 % after 29 days).

**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.

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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** Not applicable

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
Wheat flour	Not listed.	Not listed.
Endo 1,4 beta-glucanase	Not listed.	Not listed.
Xylanase	Not listed.	Not listed.
Calcium propionate	Not listed.	Not listed.
Subtilisin	Not listed.	Not listed.
Alpha Amylase	Not listed.	Not listed.

**U.S. State Regulations**

This product does not contain any Proposition 65 chemicals.

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16. OTHER INFORMATION

**Prepared By** SDS.Genencor@Danisco.com  
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**Changes since last date of revision:** Change in format  
Revisions made to Section 11: TOXICOLOGICAL INFORMATION.

**Disclaimer**

The information provided on this (M)SDS 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**