

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
1.1. Product identifier

Product Name Aextra® PRO 301 TPT
Product Code A01059
Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Animal feed

1.3. Details of the supplier of the safety data sheet

Genencor International, B.V.
 Archimedesweg 30
 2333 CN Leiden
 The Netherlands
 Tel.: +31 71 5686 168
 Fax: +31 71 5686 169

E-mail address

SDS.Genencor@DuPont.com

1.4. Emergency telephone number

+32 (0) 50 44 91 73

Section 2: HAZARDS IDENTIFICATION
2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Serious eye damage/eye irritation	Category 2 - (H319)
Respiratory sensitisation	Category 1 - (H334)
Chronic aquatic toxicity	Category 3 - (H412)

2.2. Label elements

Contains: Subtilisin



Signal word

DANGER

Hazard statements

H412 - Harmful to aquatic life with long lasting effects

H319 - Causes serious eye irritation

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statements

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

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P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
 P284 - In case of inadequate ventilation wear respiratory protection
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
 P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
 P273 - Avoid release to the environment

2.3. Other hazards
 None known

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Description Preparation.

Chemical Name	CAS No	%	EINECS	IUB Code	REACH Reg. No	CLP Classification
Talc	14807-96-6	1-5	238-877-9	-	No data available	-
Starch	9005-25-8	1-5	232-679-6	-	No data available	-
Subtilisin	9014-01-1	1-<5	232-752-2	3.4.21.62	01-2119480434-38	Acute Oral 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Resp. Sens. 1 (H334) STOT SE 3 (H335) Acute Aquatic 1 (H400) Chronic Aquatic 2 (H411)

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Skin Contact: IF ON SKIN: Wash with plenty of water and soap. If skin irritation occurs: Get medical advice/ attention.

Eye Contact 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.

Ingestion Rinse mouth thoroughly with water. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

4.3. Indication of any immediate medical attention and special treatment needed
 Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

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Extinguish with alcohol-resistant foam, fire extinguishing powder or water spray.

5.2. Special hazards arising from the substance or mixture

None known

5.3. Advice for firefighters

Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid generation of dust and aerosols. Avoid breathing dust or spray mist.

Advice for Emergency Responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Contain spill. Keep out of waterways.

6.3. Methods and material for containment and cleaning up

Methods for Containment Cover with absorbent or contain. Collect and dispose.

Methods for Cleaning Up

Use appropriate personal protective equipment (PPE). Contain and/or absorb spill with inert material, then place in suitable container. Prevent runoff from entering drains, sewers or waterways.

6.4. Reference to other sections

Use personal protection recommended in Section 8.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid generation of dust and aerosols. Ensure adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid breathing dust or spray mist. Wear suitable gloves and eye/face protection.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Protect from light. Keep/store only in original container.

7.3. Specific end use(s)

See section 1 for more information.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Based on data available for ingredients.

Chemical Name	EU	UK WEL	France	Spain	German MAK:
Talc	None known	3 mg/m ³ STEL (calculated, respirable dust) 1 mg/m ³ respirable dust	None known	TWA: 2 mg/m ³	Category 3B

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Subtilisin	None known	TWA= 0.00004 mg/m ³	None known	STEL: 0.00006 mg/m ³	None known
Starch	None known	30 mg/m ³ STEL (calculated, total inhalable); 12 mg/m ³ STEL (calculated, respirable) 10 mg/m ³ total inhalable 4 mg/m ³ respirable	None known	TWA: 10 mg/m ³	None known

Chemical Name	Italy	Portugal	The Netherlands	Finland	Denmark
Talc	None known	TWA: 2 mg/m ³	TWA: 0.25 mg/m ³	TWA: 0.5 fiber/cm ³ STEL: 2 ppm STEL: 1 ppm	TWA: 0.3 fiber/cm ³
Subtilisin	None known	Ceiling= 0.00006 mg/m ³	None known	None known	Ceiling= 0.00006 mg/m ³
Starch	None known	TWA: 10 mg/m ³	None known	None known	None known

Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Talc	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 4.0 mg/m ³ TWA: 1.0 mg/m ³	TWA: 6 mg/m ³ TWA: 2 mg/m ³	TWA: 10 mg/m ³ TWA: 0.8 mg/m ³ STEL: 30 mg/m ³ STEL: 2.4 mg/m ³
Subtilisin	None known	STEL= 0.00006 mg/m ³	None known	None known	TWA= 0.00006 mg/m ³ = 0.00006 mg/m ³
Starch	None known	TWA: 3 mg/m ³	None known	None known	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³

DNEL/DMEL - Workers

Derived minimal effect level (DMEL) of 60 ng/m³ for workers and 15 ng/m³ for consumers has been derived for enzyme proteins

DNEL/DMEL - General population

Derived minimal effect level (DMEL) of 60 ng/m³ for workers and 15 ng/m³ for consumers has been derived for enzyme proteins

Predicted No Effect Concentration (PNEC)

No data available

8.2. Exposure controls

Engineering Measures

Transfer via enclosed lines. Formulate in enclosed or ventilated mixing vessels. Carefully handle the substance to minimise releases. Avoid generation of dust and aerosols.

Personal protective equipment

Eye/Face Protection

Hand Protection

Wear safety glasses with side shields (or goggles).

Use any protective gloves that meet the minimum requirements of EN420 when handling solid product. Gloves meeting the additional requirements of EN374-2 should be worn when handling liquid products. Practical experience has shown that gloves of nitrile rubber, butyl rubber, latex, and polyvinyl chloride (PVC) offer sufficient protection. There are no additional material, thickness and breakthrough time requirements. Chemical resistant gloves, as defined by EN374-3 are not required.

Skin and Body Protection

Respiratory Protection

Wear protective gloves and protective clothing.

Ensure adequate ventilation. If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. Respirators with a particle filter (EN143) or P3 filters are recommended.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	
Physical State	Granules
Colour	Brown
Odour	No data available
Odour Threshold	No data available
pH	5.1-5.3
Melting point / freezing point	No data available
Boiling point / boiling range	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Upper explosive limits	No data available
Lower Flammability Limit	No data available
Lower explosive limits	No data available
Vapour Pressure	No data available
Vapour Density	No data available
Relative density	No data available
Specific Gravity	No data available
Water Solubility	Soluble
Partition Coefficient (n-octanol/water)	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Dynamic viscosity	No data available
Oxidising Properties	No data available

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

Not expected.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None known.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects****Product Information****Acute Toxicity**

Inhalation	No data available.
Eye Contact	Causes serious eye irritation.
Skin Contact:	Not expected to cause irritation.
Ingestion	Toxicity: Not expected

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Sensitisation	May cause sensitisation in susceptible persons. Repeated inhalation of enzyme containing aerosol (dust or mist) can cause a respiratory allergy in some individuals.
Mutagenic effects	No data available.
Carcinogenic effects	No data available.
Reproductive effects	No data available.
STOT - single exposure	No data available.
STOT - repeated exposure	No data available.
Aspiration hazard	Not expected.

Component Information

Classification based on data available for ingredients.

Talc

Eye irritation	May cause slight irritation
Skin irritation	May cause slight irritation
Respiratory irritation	May cause slight irritation
Sensitisation	Not a skin sensitiser
Reproductive effects	No Developmental toxicity In rats
Mutagenic effects	Negative in the chromosomal aberration assay. Negative in dominant lethal assay in rat up to 5000 mg/kg . Negative in DNA Damage and Repair Assay. Negative in Ames assay with and without metabolic activation up to 20 mg/plate.

Subtilisin

Oral	Oral LD50 (rat) =1800 mg/kg
Inhalation	LC50/inhalation/4h/rat 0.8 mg/l
Eye irritation	Causes severe eye irritation
Skin irritation	May cause skin irritation
Respiratory irritation	May cause irritation of respiratory tract
Sensitisation	Patch test on human volunteers did not demonstrate sensitisation properties. May cause sensitisation in susceptible persons. Repeated inhalation of enzyme containing aerosol (dust or mist) can cause a respiratory allergy in some individuals.
Reproductive effects	This product does not contain any known or suspected reproductive hazards
Mutagenic effects	Negative in chromosomal aberration using human lymphocytes. Negative in Ames assay with and without metabolic activation up to 5000 µg/plate.
Systemic Toxicity	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

Starch

Eye irritation	Mild eye irritation
Skin irritation	Mild skin irritation
Respiratory irritation	May cause slight irritation

The following values are calculated based on chapter 3.1 of the GHS document (ATE)

ATEmix (oral) 69,231.00 mg/kg

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Classification based on data available for ingredients.

Contains 0% of components with unknown hazards to the aquatic environment

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to daphnia
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Talc 14807-96-6	No data	Brachydanio rerio LC50 = 100000 mg/L.	No data
Subtilisin 9014-01-1	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.

12.2. Persistence and degradability

Based on data available for ingredients.

Chemical Name	Biodegradation
Talc 14807-96-6	No data
Subtilisin 9014-01-1	Readily biodegradable (102 % after 29 days).

12.3. Bioaccumulative potential

No bioaccumulation potential.

12.4. Mobility in soil

Soluble in water.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

None known.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal Methods	Dispose of wastes in an approved waste disposal facility. Dispose of contents/containers in accordance with local regulations.
Contaminated Packaging	Dispose of empty containers and wastes safely. Dispose of waste product or used containers according to local regulations.

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1 UN-No	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3. Hazard Class	Not regulated
14.4. Packing Group	Not regulated
14.5. Marine Pollutant	None
14.6. Special Provisions	None
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	None

RID

14.1 UN-No	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3. Hazard Class	Not regulated

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14.4. Packing Group Not regulated
 14.5. Environmental hazard None
 14.6. Special Provisions None

ADR:

14.1 UN-No Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3. Hazard Class Not regulated
 14.4. Packing Group Not regulated
 14.5. Environmental hazard None
 14.6. Special Provisions None

ICAO

14.1 UN-No Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3. Hazard Class Not regulated
 14.4. Packing Group Not regulated
 14.5. Environmental hazard None
 14.6. Special Provisions None

IATA:

14.1 UN-No Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3. Hazard Class Not regulated
 14.4. Packing Group Not regulated
 14.5. Environmental hazard None
 14.6. Special Provisions None

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical Name	Water hazard class (WGK)
Starch	1
Subtilisin	1

15.2. Chemical safety assessment

No information available.

Section 16: OTHER INFORMATION

Full text of H-Statements referred to under section 3

- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H318 - Causes serious eye damage
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H335 - May cause respiratory irritation
- H400 - Very toxic to aquatic life
- H411 - Toxic to aquatic life with long lasting effects

Prepared By SDS.Genencor@DuPont.com



First you add knowledge...

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Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Disclaimer

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End of Safety Data Sheet