



Specification

Product Name: Pectinex
Product Code: SPEC0047

Description:

Pectinex is a specialty enzyme that breaks down pectin's structure. Typically used in juice manufacturing. Pectinex has several unique applications in the Modernist Kitchen. It can be used to peel and supreme citrus fruit without using a knife giving a perfect result. It can also be used to remove Pectin from fruit juices and ciders improving clarification and taste.

Specifications:

PRODUCT CHARACTERISTICS / PROPERTIES	
Activity	7700 PECTU/g
Colour	Brown
Physical Form	Liquid
Approximate Density (g/ml)	1.18
Odour	Slight fermentation odour
Solubility	Active component is readily soluble in water at all concentrations that occur in normal usage. Standardisation components can cause turbidity in solution.
Colour can vary from batch to batch. Colour intensity is not an indication of enzyme activity.	

PRODUCT SPECIFICATION			
	Lower limit	Upper Limit	Unit
Pectinase unit PECTU	7700		/g
PH at 25°	3	5	
Total viable count	-	50000	/g
Coliform bacteria	-	30	/g
E.coli	Not detected		/25g
Salmonella	Not detected		/25g
Heavy metals		Max 30	mg/kg
Lead		Max 5	mg/kg

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Arsenic		Max 3	mg/kg
Cadmium		Max 0.5	mg/kg
Mercury		Max 0.5	mg/kg
This enzyme analytical method is available from Novozymes Market or customer sales representative.			

Ingredients:

Glycerol, Water, Polygalacturonase, Potassium Chloride, Pectinlyase

Dietary Information:

Suitable for Vegans & Vegetarians, Non-GMO, Gluten Free.

Storage:

Store in dry, cool conditions and not in direct sunlight.

Packaging:

Size	EAN
30ml	5056191000164
100ml	5060341117749
1L	5056191008535
5L	5056191008542

Shelf Life:

36 months from production date.

Allergen Declaration

Allergen	Contains (Y/N)
Cereals containing Gluten	N
Crustaceans	N
Eggs	N
Fish	N
Peanuts	N
Soybeans	N
Milk	N
Nuts	N
Celery	N
Mustard	N
Sesame Seeds	N
Sulphur Dioxide and Sulphites (at concentration of more than 10mg/kg or 10mg/L in terms of Sulphur Dioxide)	N
Lupin	N
Molluscs	N



Material Safety Data Sheet

1: Substance/Preparation and Company Identification:

1.1 Product Identification

Pectinex

1.2 Relevant identified uses of the substances or mixture, uses advised against

Identified Uses: Enzyme Biocatalyst

1.3 Details of supplier of the safety data sheet

Special Ingredients Ltd, 4 Foxwood View, Chesterfield, S41 9RN. Tel: 0044 (0)1246 906247. E-mail address: <https://specialingredients.co.uk/pages/contact>.

1.4 Emergency Telephone

Emergency Telephone Contact: 07701 095864

2: Hazard Identification:

2.1 Classification of the substance or mixture

Classification (EC 1272/2008)

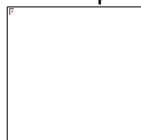
Physical hazards: Not classified

Health hazards: Resp. Sens. 1 – H334

Environmental hazards: Not Classified

2.2 Label Elements

Hazard pictograms



Signal word: Danger

Hazard Statements: H334 may cause allergy of asthma symptoms or breathing difficulties if inhaled.

Precautionary statements:

- P261 Avoid breathing vapour / 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 CENTRE / doctor.
- P501 Dispose of contents / container in accordance with national regulations.

Contains: POLYGALACTURONASE. PECTIN LYASE

2.3 Other Hazards

This product does not carry any substances classified as PBT or vPvB.

3: Composition/Information on Ingredients:

3.2 Mixtures

PECTIN LYASE		<10%
CAS number: 9033-35-6	EC number: 232-894-5	
Classification		
Resp. Sens. 1 - H334		

POLYGALACTURONASE		1-5%
CAS number 9032-75-1	EC number: 232-885-6	
Classification		
Resp. Sens. 1 - H334		

The full text for all hazard statements is displayed in Section 16.

Composition comments: The data shown are in accordance with the latest EC Directives.

4: First Aid Measures:

4.1 Description of first aid measures

Inhalation: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.

Ingestion: Rinse mouth thoroughly with water. Give plenty of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if any discomfort continues.

Skin contact: Remove contaminated clothing. Wash contaminated clothing before reuse. Wash skin thoroughly with soap and water. Rinse with water. Get medical attention if any discomfort continues.

Eye contact: Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. Effects may be delayed.

Ingestion: May cause discomfort if swallowed.

Skin contact: May be slightly irritating to skin.

Eye contact: May be slightly irritating to eyes.

4.3 Indication of any immediate medical attentions and special treatments needed

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

5: Firefighting Measures:

5.1 Extinguishing media

Suitable extinguishing media: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the Substance or mixtures

Specific hazards – May cause respiratory allergy.

5.3 Advice for fire fighters

Proactive actions during firefighting: Contain and collect extinguishing water.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing

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apparatus (SCBA) and appropriate protective clothing.

6: Accidental Release Measures:

6.1 Personal precautions, protective equipment and emergency procedure.

Personal precautions: Wear protective clothing as described in Section 8 of this safety data sheet.

Avoid inhalation of spray mist and contact with skin and eyes. Provide adequate ventilation.

6.2 Environmental precautions

Environmental precautions: Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3 Methods for clean up

Methods for cleaning up: Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4 Reference to other sections

Refer to other sections: For personal protection, see Section 8. For waste disposal, see Section 13.

7: Handling And Storage:

7.1 Precautions for safe handling

Usage precautions: Avoid spilling. Avoid the formation of mists. Provide adequate ventilation. Avoid contact with skin and eyes.

7.2 Conditions for safe storage

Storage precautions: Store in tightly-closed, original container in a dry, cool and well-ventilated place. Store at temperatures between 0 and 10°C

7.3 Specific end use(s)

Specific end use(s): The identified uses for this product are details in Section 1.2

8: Exposure Controls/ Personal Protection:

8.1 Control parameters

Ingredient comments: No exposure limits known for ingredient(s).

PECTIN LYASE (CAS: 9033-35-6)

DMEL – Workers: Inhalation; Long term local effects: 60 ng/m³

POLYGALACTURONASE (CAS: 9032-75-1)

DNEL – Workers: Inhalation; Long term local effects: 60 ng/m³

8.2 Exposure controls

Protective Equipment – Mask, Gloves & Goggles

Appropriate engineering controls: Provide adequate ventilation. Avoid inhalation of vapours and spray/mists. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection: The following protection should be worn: Chemical splash goggles. EN 166.

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacture, who can provide information about the breakthrough time of the glove material. EN 374.

Other skin and body protection: Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures: Wash contaminated clothing before reuse. Wash hands after handling. Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection: If ventilation is inadequate, suitable respiratory protection must be worn.

Particulate filter, type P3. EN 136/140/141/145/143/149

9: Physical and Chemical Properties:

9.1 Information on basic physical and chemical properties

Appearance: Liquid.

Colour: Brown.

Odour: Characteristic.

Odour threshold: No information available.

pH: No information available.

Melting point: No information available.

Initial boiling point and range: No information available.

Flash point: No information available.

Evaporation rate: No information available.

Evaporation factor: No information available.

Flammability (solid, gas): No information available.

Upper/lower flammability or explosive limits: No information available.

Other flammability: No information available.

Vapour pressure: No information available.

Vapour density: No information available.

Relative density: 1.16 - 1.17 @ °C

Bulk density: No information available.

Solubility(ies): Soluble in water.

Partition coefficient: No information available.

Auto-ignition temperature: No information available.

Decomposition Temperature: No information available.

Viscosity: No information available.

Explosive properties: No information available.

Explosive under the influence of a flame: No information available.

Oxidising properties: No information available.

9.2 Other Information

Other information: Not determined.

Refractive index: No information available.

Particle size: No information available.

Molecular weight: No information available.

Volatility: No information available.

Saturation concentration: No information available.

Critical temperature: No information available.

Volatile organic compound: No information available.

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10: Stability and Reactivity:**10.1 Reactivity**

Reactivity: There are no known reactivity hazards associated with this product.

10.2 Chemical stability

Stability: Stable at normal ambient temperatures and when used as recommended.

10.3 Possibility of hazardous reactions

Possibility of hazardous: Not determined.

10.4 Conditions to avoid

Conditions to avoid: Avoid excessive heat for prolonged periods of time.

10.5 Incompatible materials

Materials to avoid: No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6 Hazardous decomposition products

Haz. decomp. Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

11: Toxicological Information:**11.1 Information on toxicological effects**

Toxicological effects: No information available.

Skin corrosion/irritation: No information available.

Animal data: Data lacking.

Serious eye damage/irritation :Data lacking.

Respiratory sensitisation: Sensitising.

Skin sensitisation: Data lacking.

Genotoxicity - in vitro: Data lacking.

Carcinogenicity: Data lacking.

Reproductive toxicity – fertility: Data lacking.

Specific target organ toxicity - single exposure: Data lacking.

Specific target organ toxicity - repeated exposure: Data lacking.

Aspiration hazard: Data lacking.

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

Ingestion: May cause discomfort if swallowed.

Skin contact: May be slightly irritating to skin.

Eye contact: May be slightly irritating to eyes.

Toxicological information on ingredients.**PECTIN LYASE**

Acute toxicity – oral: Notes (oral LD₅₀) LD₅₀ >2000 mg/kg, Oral, Rat OECD 401 OECD 420

Skin corrosion/irritation

Animal data: Not irritating. OECD 404

Serious eye damage/irritation

Serious eye damage/irritation: Not irritating. OECD 405

Respiratory sensitisation.

Respiratory sensitisation: Sensitising.

POLYGALACTURONASE

Acute toxicity – oral: Notes (oral LD₅₀) LD₅₀ >2000 mg/kg, Oral, Rat

Skin corrosion/irritation: Animal data Not irritating. Rabbit OECD 404

Serious eye damage/irritation: Serious eye damage/irritation: Not irritating. Rabbit OECD 405

Respiratory sensitisation

Respiratory sensitisation: Sensitising. Human

Germ cell mutagenicity

Genotoxicity - in vitro: This substance has no evidence of mutagenic properties.

12: Ecological Considerations:

Ecotoxicity: The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1 Toxicity

Toxicity: Not considered toxic to fish.

Ecological information on ingredients.

PECTIN LYASE

Acute aquatic toxicity

Acute toxicity – fish: LC₅₀, 96 hours: 58.3 - 326.7 mg/l, Fish OECD 203

Acute toxicity – aquatic invertebrates: EC₅₀, 48 hours: 31.7 - 457 mg/l, Daphnia magna OECD 202

Acute toxicity – aquatic plants: EC₅₀, 72 hours: >=5.2 mg/l, Algae OECD 201

POLYGALACTURONASE

Acute aquatic toxicity

Acute toxicity – fish: LC₅₀, 96 hours: 58.3 - 326.7 mg/l, Fish OECD 203

Acute toxicity – aquatic invertebrates: EC₅₀, 48 hours: 31.5 - 457 mg/l, Daphnia magna OECD 202

Acute toxicity – aquatic plants: IC₅₀, 72 hours: ErC50(72h): >= 5.2 mg/l, Algae OECD 201

12.2 Persistence / degradability

Persistence and degradability: This product is readily biodegradable.

Ecological information on ingredients

PECTIN LYASE



Persistence and degradability: This product is readily biodegradable. OECD 301.

POLYGALACTURONASE

Persistence and degradability: This product is readily biodegradable. OECD 301.

12.3 Bioaccumulative potential

Bioaccumulative potential: This product does not contain any substances expected to be bioaccumulations.

Partition coefficient: No information available.

Ecological information on ingredients

PECTIN LYASE

Bioaccumulative potential: This product is not bioaccumulating.

Partition coefficient: log Pow: < 0

POLYGALACTURONASE

Bioaccumulative potential: This product is not bioaccumulating.

Partition coefficient: log Pow: < 0

12.4 Mobility in soil

Mobility: No information available

12.5 Results of PBT and vPvB Assessment

Results of PBT and vPvB assessment: This substance is not classified as PBT or vPvB according to current EU criteria.

12.6 Other adverse effects

Other adverse effects – Not determined.

13: Disposal Considerations:

13.1 Waste treatment methods

General Information - Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority. Do not puncture or incinerate, even when empty.

14: Transport Information:

General: The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Environmentally hazardous substance / marine pollutant: No

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

15: Regulatory Information:**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EU Legislation:

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

15.2 Chemical Safety

No chemical safety assessment has been carried out.

16: Other Information:

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

CAS: Chemical Abstracts Service.

DNEL: Derived No Effect Level.

IATA: International Air Transport Association.

IMDG: International Maritime Dangerous Goods.

Kow: Octanol-water partition coefficient.

LC₅₀: Lethal Concentration to 50 % of a test population.

LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).

PBT: Persistent, Bioaccumulative and Toxic substance.

PNEC: Predicted No Effect Concentration.

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.

RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.

vPvB: Very Persistent and Very Bioaccumulative.

IARC: International Agency for Research on Cancer.

MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.

cATpE: Converted Acute Toxicity Point Estimate.

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BCF: Bioconcentration Factor.

BOD: Biochemical Oxygen Demand.

EC₅₀: 50% of maximal Effective Concentration.

LOAEC: Lowest Observed Adverse Effect Concentration.

LOAEL: Lowest Observed Adverse Effect Level.

NOAEC: No Observed Adverse Effect Concentration.

NOAEL: No Observed Adverse Effect Level.

NOEC: No Observed Effect Concentration.

LOEC: Lowest Observed Effect Concentration.

DMEL: Derived Minimal Effect Level.

EL50: Exposure Limit 50

hPa: Hectopascal

LL50: Lethal Loading fifty

OECD: Organisation for Economic Co-operation and Development

POW: Octanol-water partition coefficient

SCBA: self-contained breathing apparatus

STP: Sewage Treatment Plant

VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity

Aquatic Acute = Hazardous to the aquatic environment (acute)

Aquatic Chronic = Hazardous to the aquatic environment (chronic)

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