SECTION 1. Identification of the substance/mixture and of the company/enterprise

1.1. Product identifier

Product name : ENDOZYM D Pect
Product code: refer to sales department

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

Enzyme preparations
Sectors of use:
Manufacture of food products[SU4]
Product category:
Process aid for enological use

Not recommended uses
Do not use for purposes other than those listed

1.3. Details of the supplier of the safety data sheet

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1.4. Emergency telephone number

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AEB OCEANIA PTY LTD
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SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008:

Pictograms:
GHS08

Hazard Class and Category Code(s):
Resp. Sens. 1

Hazard statement Code(s):
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

The product, if inhaled, can cause sensitization.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008:

Pictogram, Signal Word Code(s):
GHS08 - Danger

Hazard statement Code(s):
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

Supplemental Hazard statement Code(s):
not applicable

Precautionary statements:
Prevention
P261 - Avoid breathing vapours/spray.
P284 - In case of inadequate ventilation wear respiratory protection.
Response
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Contains:
Pectin lyases, Polygalacturonase

2.3. Other hazards

Based on the available data, no PBT or vPvB substances are present in accordance with Regulation (EC) 1907/2006, annex XIII

The use of this chemical agent implies the obligation of the "risk assessment" by the employer according to the provisions of Legislative Decree April 9, 2008 no. 81 and subsequent amendments. If the results of the risk assessment demonstrate that, in relation to the type, quantity, methods and frequency of exposure, there is only a low risk for the safety and irrelevant for the health of the workers and that the measures referred to in paragraph 1 of Legislative Decree April 9, 2008 no. 81 are sufficient to reduce the risk, the provisions of articles 225, 226, 229, 230 of the same Legislative Decree do not apply

Do not ingest. Keep out of reach of children.

SECTION 3. Composition/information on ingredients

3.1 Substances

Irrilevant

3.2 Mixtures

Refer to paragraph 16 for full text of hazard statements

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACh
Potassium chloride substance for which there are Community workplace exposure limits	>= 10 < 25%			7447-40-7	231-211-8	
Pectin lyases	>= 1 < 2,5%	Resp. Sens. 1, H334	4.2.2.10	9033-35-6	232-894-5	
Polygalacturonase	>= 0,1 < 1%	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Resp. Sens. 1, H334; STOT SE 3, H335	3.2.1.15	9032-75-1	232-885-6	

SECTION 4. First aid measures

4.1. Description of first aid measures

Inhalation
Ventilate the room. Immediately remove the patient from the contaminated environment and keep him at rest in a well-ventilated area. If he feels unwell, consult a doctor.

Direct contact with the skin (of the pure product)
Wash thoroughly with soap and water.

Direct contact with the eyes (of the pure product)
Rinse immediately with running water for 10-15 minutes, keeping the eyelid open. Remove contact lenses if they are worn and can be easily removed.

Ingestion
Not dangerous. In case of malaise consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed

No data available.

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

If you experience respiratory symptoms: Call a POISON CENTER or doctor.

SECTION 5. Firefighting measures

5.1. Extinguishing media

Suggested extinguishing media:
Water spray, CO2, foam, dry chemical, depending on the materials involved in the fire.

Extinguishing media to avoid:
Water jets. Use water jets only to cool the surfaces of the containers exposed to fire.

5.2. Special hazards arising from the substance or mixture

No data available.

5.3. Advice for firefighters

Use respiratory protection. Safety helmet and complete protective clothing. Water spray can be used to protect people engaged in firefighting. It is also advisable to use self-contained breathing apparatus, especially if working in closed and poorly ventilated places. Cool containers with jets of water

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:
Move away from the area surrounding the spill or release. Not smoking. Wear gloves and protective clothing.

6.1.2 For emergency responders:
Eliminate all open flames and possible sources of ignition. Not smoking.
Provide adequate ventilation. Evacuate the danger area and, if necessary, consult an expert.

6.2. Environmental precautions

Contain spills with earth or sand.
If the product has entered a watercourse, sewers or has contaminated soil or vegetation, notify the authorities.
Dispose of the waste material in compliance with the regulations

6.3. Methods and material for containment and cleaning up

6.3.1 Containment:
Rapidly recover the product, wear a mask and protective clothing (for specifications refer to section 8.2. SDS)
Recover the product for reuse, if possible, or for removal. Possibly absorb it with inert materia or sucked it.
Prevent it from entering the sewer system.

6.3.2 Cleaning up:
After wiping up, wash with water the area and materials involved

6.3.3 Other information:
None in particular.

6.4. Reference to other sections

Refer to paragraphs 8 and 13 for more information

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Avoid contact and inhalation of vapours. Handle the product after consulting all other sections of this safety data sheet.
Do not eat or drink while handling the product.
See also paragraph 8

7.2. Conditions for safe storage, including any incompatibilities

Keep in original container closed tightly. Do not store in open or unlabelled containers.
Keep containers upright and safe by avoiding the possibility of falls or collisions.
Store in a cool and dry place, away from heat sources and direct exposure to sunlight.
Store in the original sealed packaging, protected from light, in a cool, dry, odorless place and at a temperature < 20°C.
Do not freeze.
Batch number (BN) and expiry date (EXP): see barcodes

7.3. Specific end use(s)

Manufacture of food products:
Food industries: Store in the original sealed packaging, protected from light, in a cool, dry, odorless place and at a temperature < 20°C. Do not freeze.
Batch number (BN) and expiry date (EXP): see barcodes

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

==========
Related to contained substances:
Potassium chloride:
Limit value - Eight hours
Latvia: 5 mg/m³

- Substance: Potassium chloride
DNEL
Systemic effects Long term Workers inhalation = 1064 (mg/m3)
Systemic effects Long term Workers dermal = 303 (mg/kg bw/day)
Systemic effects Long term Consumers inhalation = 273 (mg/m3)
Systemic effects Long term Consumers dermal = 182 (mg/kg bw/day)
Systemic effects Long term Consumers oral = 91 (mg/kg bw/day)
Systemic effects Short term Workers inhalation = 5320 (mg/m3)
Systemic effects Short term Workers dermal = 910 (mg/kg bw/day)
Systemic effects Short term Consumers inhalation = 1365 (mg/m3)
Systemic effects Short term Consumers dermal = 910 (mg/kg bw/day)
Systemic effects Short term Consumers oral = 455 (mg/kg bw/day)
PNEC
Sweet water = 0,1 (mg/l)
Sea water = 0,1 (mg/l)
intermittent emissions = 1 (mg/l)
STP = 10 (mg/l)

- Substance: Pectin lyases
PNEC
Sweet water = 0,052 (mg/l)
Sea water = 0,00052 (mg/l)
STP = 65 (mg/l)
ground = 0,001 (mg/kg ground)

- Substance: Polygalacturonase
PNEC
Sweet water = 0,0237 (mg/l)
Sea water = 0,0237 (mg/l)
intermittent emissions = 0,237 (mg/l)
STP = 65 (mg/l)
ground = 0,00376 (mg/kg ground)

8.2. Exposure controls

Appropriate engineering controls:
Manufacture of food products:
No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)

8.2.2 Individual protection measures:

(a) Eye / face protection
Not needed for normal use, unless otherwise provided by the employer and / or by assessments of environmental hygiene investigations

(b) Skin protection

(i) Hand protection
Not needed for normal use, unless otherwise provided by the employer and / or by assessments of environmental hygiene investigations

(ii) Other
Wear normal work clothing.

(c) Respiratory protection
Use adequate protective respiratory equipment (EN 14387:2008)

(d) Thermal hazards
No hazard to report

Environmental exposure controls:
Use according to good working practices and avoid to disperse the product into the environment.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Physical state	Viscous liquid	
Colour	brown	
Odour	not determined as it is considered not relevant for the characterization of the product	
Odour threshold	not determined as it is considered not relevant for the characterization of the product	
Melting point/freezing point	not determined as it is considered not relevant for the characterization of the product	
Boiling point or initial boiling point and boiling range	not determined as it is considered not relevant for the characterization of the product	
Flammability	not determined as it is considered not relevant for the characterization of the product	
Lower and upper explosion limit	not determined as it is considered not relevant for the characterization of the product	

Physical and chemical properties	Value	Determination method
Flash point	not determined as it is considered not relevant for the characterization of the product	ASTM D92
Auto-ignition temperature	not determined as it is considered not relevant for the characterization of the product	
Decomposition temperature	not determined as it is considered not relevant for the characterization of the product	
pH	6.5 - 8 (20°C)	
Kinematic viscosity	not determined as it is considered not relevant for the characterization of the product	
Solubility	not determined as considered not relevant for the characterization of the product	
Water solubility	not determined as considered not relevant for the characterization of the product	
Partition coefficient n-octanol/water (log value)	not determined as it is considered not relevant for the characterization of the product	
Vapour pressure	not determined as it is considered not relevant for the characterization of the product	
Density and/or relative density	0.95 - 1.3	
Relative vapour density	not determined as it is considered not relevant for the characterization of the product	
Particle characteristics	not determined as considered not relevant for the characterization of the product	

9.2. Other information

9.2.1 Information with regard to physical hazard classes

No data available.

9.2.2 Other safety characteristics

No data available.

SECTION 10. Stability and reactivity

10.1. Reactivity

==========
Related to contained substances:
Potassium chloride:
The product is not reactive under normal conditions of use, storage and transport.

Pectin lyases:
The product is non-reactive under normal conditions of use, storage and transport.

Polygalacturonase:
Non pertinent.

10.2. Chemical stability

No hazardous reaction when handled and stored according to provisions.

10.3. Possibility of hazardous reactions

There are no hazardous reactions

10.4. Conditions to avoid

==========
Related to contained substances:
Potassium chloride:
None under recommended storage and handling conditions.

Pectin lyases:
The product is not reactive under normal conditions of use, storage and transport.

Polygalacturonase :
None.

10.5. Incompatible materials

Noone in particular

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11. Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

(a) acute toxicity: Potassium chloride: Ingestion - DL50 rat (mg / kg / 24h pc): 3020
Contact avec la peau - CL50 rat / lapin (mg / kg / 24h pc): n.d.
Inhalation - DL50 rat (mg / l / 4h): n.d.
Pectin lyases: Ingestion - LD50 rat (mg / kg / 24h bw): not available
Skin contact - LC50 rat / rabbit (mg / kg / 24h bw): not available
Inhalation - LD50 rat (mg / l / 4h): not available
Polygalacturonase : Ingestion - LD50 rat (mg / kg / 24h bw): nd
Skin contact - LC50 rat / rabbit (mg / kg / 24h bw): nd
Inhalation - LD50 rat (mg / l / 4h): nd

(b) skincorrosion/irritation: Potassium chloride: Unclassified
Pectin lyases: Not corrosive
Polygalacturonase : Unavailable
Potassium chloride: Unclassified
Pectin lyases: Not irritating
Polygalacturonase : Irritating
(c) serious eye damage/irritation: Potassium chloride: Unclassified
Pectin lyases: Not corrosive
Polygalacturonase : Unavailable
Potassium chloride: Unclassified
Pectin lyases: Not irritating
Polygalacturonase : Irritating
(d) respiratoryorskinsensitisation: The product, if inhaled, can cause sensitization.
Potassium chloride: Unclassified
Pectin lyases: Sensitizer: May cause sensitization by inhalation.
Polygalacturonase : May cause sensitization by inhalation
(e) germ cell mutagenicity: Potassium chloride: Unclassified
Pectin lyases: Unavailable
Polygalacturonase : Unavailable
(f) carcinogenicity: Potassium chloride: Unclassified
Pectin lyases: Unavailable
Polygalacturonase : Unavailable
(g) eproductivetoxicity: Potassium chloride: Unclassified
Pectin lyases: Unavailable
Polygalacturonase : Unavailable
(h) specific target organ toxicity (STOT) single exposure: Potassium chloride: Unclassified
Pectin lyases: Unavailable
Poligalatturonasii: Unavailable
(i) specific target organ toxicity (STOT) repeated exposurePotassium chloride: Unclassified
Pectin lyases: Once sensitized, a severe allergic reaction can occur upon subsequent exposure to very low levels.
Polygalacturonase : Unavailable
(j) aspiration hazard: Potassium chloride: Unclassified
Pectin lyases: Unavailable
Polygalacturonase : Unavailable

11.2. Information on other hazards

No data available.

SECTION 12. Ecological information

12.1. Toxicity

==========
Related to contained substances:
Potassium chloride:
Acute toxicity - fish LC50 (mg / l / 96h): 880 (Pimephales promelas; (OECD method 203))
Acute toxicity - crustaceans EC50 (mg / l / 48h): 440 (Daphniamagna; (OECD method 202))
Acute toxicity algae EC50 (mg / l / 72h):> 100 (Desmodesmus subspicatus; (method OECD 201))
Chronic toxicity - fish NOEC (mg / l): nd Chronic toxicity - crustaceans NOEC (mg / l): nd
Chronic toxicity algae NOEC (mg / l / 72h):> 100 (Desmodesmus subspicatus; (method OECD 201))

Pectin lyases:
Acute toxicity - fish LC50 (mg / l / 96h): not available
Acute toxicity - crustaceans EC50 (mg/l/48h) [1]: 2000 mg/l

Acute toxicity - crustaceans EC50 (mg/l/48h) [2]: 212 mg/l
Acute toxicity algae ErC50 (mg / l / 72-96h): not available
Chronic toxicity - fish NOEC (mg / l): not available
Chronic toxicity - shellfish NOEC (mg / l): not available
Chronic toxicity algae NOEC (mg / l): not available

Polygalacturonase:
Acute toxicity - fish LC50 (mg / l / 96h): n.a.
Acute toxicity - crustaceans EC50 (mg / l / 48h): n.a.
Acute toxicity algae ErC50 (mg / l / 72-96h): n.a
Chronic toxicity - fish NOEC (mg / l): n.a
Chronic toxicity - crustaceans NOEC (mg / l): n.a
Chronic toxicity algae NOEC (mg / l): n.a

Use according to good working practices and avoid to disperse the product into the environment.

12.2. Persistence and degradability

==========
Related to contained substances:
Potassium chloride:
It does not apply to inorganic substances.

Pectin lyases:
Readiily biodegradable

Polygalacturonase:
Unavailable

12.3. Bioaccumulative potential

==========
Related to contained substances:
Potassium chloride:
It does not apply to inorganic substances.

Pectin lyases:
not available

Polygalacturonase:
Unavailable

12.4. Mobility in soil

==========
Related to contained substances:
Potassium chloride:
It must have been very mobile in the ground.

Pectin lyases:
not available

Polygalacturonase :
Unavailable

12.5. Results of PBT and vPvB assessment

Based on the available data, no PBT or vPvB substances are present in accordance with Regulation (EC) 1907/2006, annex XIII

12.6. Endocrine disrupting properties

No data available.

12.7. Other adverse effects

No adverse effects

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Do not reuse empty containers. Dispose of them in accordance with the regulations in force. Any remaining product should be disposed of according to applicable regulations by addressing to authorized companies.
Recover if possible. Operate according to local or national regulations

SECTION 14. Transport information

14.1. UN number or ID number

Not included in the field of application of regulations concerning the transport of dangerous goods: by road (ADR); by rail (RID); by air (ICAO / IATA); by sea (IMDG).

14.2. UN proper shipping name

None

14.3. Transport hazard class(es)

None

14.4. Packing group

None

14.5. Environmental hazards

None

14.6. Special precautions for user

No data available.

14.7. Maritime transport in bulk according to IMO instruments

Transport in bulk is not foreseen

SECTION 15. Regulatory information

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

Restrictions relating to the product or the substances contained (Annex XVII EC Reg. 1907/2006): not applicable
Substances in Candidate list (art. 59 EC Reg. 1907/2006): the product does not contain SVHC in percentage = a 0.1 %.

Regulation (EU) 1169/2011: see point 2.2
Regulation (EC) 1332/2008; see point 2.2

15.2. Chemical safety assessment

No chemical safety assessment was carried out by the supplier

SECTION 16. Other information

16.1. Other information

Points modified compared to previous release: 2.2. Label elements7.3. Specific end use(s), 8.1. Control parameters, 8.2. Exposure controls, 10.1. Reactivity, 10.2. Chemical stability, 10.3. Possibility of hazardous reactions, 10.4. Conditions to avoid, 10.5. Incompatible materials, 10.6. Hazardous decomposition products, 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008, 11.2. Information on other hazards, 12.1. Toxicity, 12.2. Persistence and degradability, 12.3. Bioaccumulative potential, 12.4. Mobility in soil

Description of hazard statements set out in paragraph 3
H334 = May cause allergy or asthma symptoms or breathing difficulties if inhaled
H315 = Causes skin irritation.
H319 = Causes serious eye irritation.
H335 = May cause respiratory irritation.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled Classification procedure: Calculation method

Main normative references:

Reg. (CE) n. 1907 del 18/12/06 REACH (Registration, Evaluation and Authorisation of CHemicals) et seq.
Reg. (CE) 1272/2008 CLP (Classification Labelling and Packaging) et seq.

Regulation (UE) 1169/2011 (on the provision of food information to consumers)
Regulation (EU) 1332/2008 (Food enzymes)

Training required: This document must be submitted to the employer to determine the possible need for appropriate training for workers to ensure protection of human health and the environment.

n.a.: not applicable
n.d.: not available
ADR: Accord europèen relative au transport International des merchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE: Acute Toxicity Estimat
BFC: BioconCentration Factor
BOD: Biochemical Oxigen Demand
CAS: Chemical Abstract Service number
CAP: Centre AntiPoison
CE/EC number EINECS (European Inventory of existing Commercial Substances) e ELINCS (European List of notified Chemical Substances)
CL50/LC50: Lethal Concentration 50
DL50/LD50: Lethal Dose 50
COD: Chemical Oxygen Demand
DNEL: Derived No Effect Level
EC50: half maximal Effective Concentration
ERC: Enviroment Release Classes
EU/UE: European Union
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods code
Kow: Octanol water partition coefficient
NOEC: No Observed Effect Concentration
OEL: Occupational Exposure Limit
PBT: Persistent Bioaccumulative and Toxic
PC: Product Categories
PNEC: Predicted No Effect Concentration
PROC: Process Categories
RID: Règlement concernent le transport International ferroviaire des merchandises dangereuses (Regulations concerning International rail transport of dangerous goods)
STOT: Target Organ Systemic Toxicity
STOT (RE): Repeated Exposure
STOT (SE): Single Exposure
STP: Sewage Treatment Plants
SU: Sector of Use
SVCH: Substance of Very High Concern
TLV: Threshold Limit Value
vPvB: Very Persistent Very Bioaccumulative

References and Sources:
• ECHA Registered Substances:
• https://echa.europa.eu/web/guest/information-on-chemicals/registered-substances
• SDS supplier
• GESTIS DNEL Database: http://www.dguv.de/ifa/gestis/gestis-dnel-datenbank/index-2.jsp
• GESTIS International Limit Value: http://limitvalue.ifa.dguv.de

This msds was made in good faith by technical Office on the basis of the information available at the date of the last revision. The person in charge must regularly inform the employees about the specific risks they encounter when using

this substance/product. The information contained here relate only to the substance/the preparation indicated and may not apply if the product is used improperly or in combination with others. Nothing contained herein shall be construed as a guarantee, either express or implied. It is the responsibility of the user to ensure the opportunities and completeness of the information contained herein for their own particular use.

*** this tab annuls and replaces any previous edition. (IIXX)

Changes to the previous edition: general review