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

1.1. Product identifier
Product name: ENDOZYM MUSCAT
Product code: refer to sales department

1.2. Relevant identified uses of the substance or mixture and uses advised against
Enzyme
Sectors of use:
Industrial Manufacturing[SU3], Manufacture of food products[SU4], Public domain (administration, education, entertainment, services, craftsmen)[SU22]
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
AEB BIOCHEMICAL USA
111 N Cluff Avenue
Lodi CA 95240 (USA)
Tel: +1 2096258139 Fax: +1 2092248953
Email: info@aebusa.com - Internet: www.aeb-group.com

Produced by
AEB FRANCE Sarl - 10, rue du Stade - 68240 SIGOLSHEIM, France

1.4. Emergency telephone number
Centralino/Switchboard/Telefonzentrale: +1 2096258139

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 dust.
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 or doctor....
Contains:
SAFETY DATA SHEET
ENDOZYM MUSCAT

Issued on 04/01/2016 - Rel. # 2 on 12/10/2015

In conformity to Regulation (EU) 2015/830

PECTIN LYASE (PL), POLYGALACTURONASE (PG), PECTIN METHYLESTERASE (PME), MALTODEXTRIN
For professional use only.
For limited use in food processing: enological use

2.3. Other hazards

The substance / mixture does NOT contain substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII
The use of this chemical agent involves the obligation of "risk assessment" by the employer in accordance with the provisions of Dlgs n. 81. April 9, 2008. Workers exposed to this chemical agent should not be subject to health surveillance if the results of the risk assessment show that, depending on the type and quantity of dangerous chemical agent and method and frequency of exposure to the agent, there is only a "moderate Risk" for the health and safety of workers and that the measures laid down in the Decree are sufficient to reduce the risk.

SECTION 3. Composition/information on ingredients

3.1 Substances

Irrelevant

3.2 Mixtures

Refer to paragraph 16 for full text of hazard statements

<table>
<thead>
<tr>
<th>Substance</th>
<th>Concentration</th>
<th>Classification</th>
<th>Index</th>
<th>CAS</th>
<th>EINECS</th>
<th>REACh</th>
</tr>
</thead>
<tbody>
<tr>
<td>PECTINE LYASE (PL)</td>
<td>&gt; 1 &lt;= 40%</td>
<td>Resp. Sens. 1, H334</td>
<td>9033-35-6</td>
<td>232-894-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLYGALACTURONASE (PG)</td>
<td>&gt; 1 &lt;= 40%</td>
<td>Resp. Sens. 1, H334</td>
<td>9032-75-1</td>
<td>232-885-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PECTINE METHYLESTERASE (PME)</td>
<td>&gt; 1 &lt;= 40%</td>
<td>Resp. Sens. 1, H334</td>
<td>9025-98-3</td>
<td>232-807-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4. First aid measures

4.1. Description of first aid measures

Inhalation:
Ventilate the area. Move immediately the contaminated patient from the area and keep him at rest in a well ventilated area. If you feel unwell seek medical advice.
Direct contact with skin (of the pure product):.
Wash thoroughly with soap and running water.
Direct contact with eyes (of the pure product):.
Wash immediately and thoroughly with running water for at least 10 minutes.
Ingestion:
Not hazardous. It’s possible to give activated charcoal in water or medicinal mineral vaseline oil.

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 experiencing 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 protection for the breathing apparatus
Safety helmet and full protective clothing.
The water spray can be used to protect the people involved in the extinction.
You may also use self-contained breathing apparatus, especially when working in confined and poorly ventilated areas and if you use halogenated extinguishers (Halon 1211 fluobrene, Solkan 123, NAF, etc...)
Keep containers cool with water spray

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
6.1.1 For non-emergency personnel:
Leave the area surrounding the spill or release. Do not smoke
Wear gloves and protective clothing
6.1.2 For emergency responders:
Eliminate all unguarded flames and possible sources of ignition. No smoking.
Provide a sufficient ventilation.
Evacuate the danger area and, in case, consult an expert.

6.2. Environmental precautions
Contain spills
Inform the competent 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
Recover the product for reuse, if possible, or for elimination.
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
In residential areas do not use on large surfaces.
At work do not eat or drink.
See also paragraph 8 below.

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 T<20°C, away from heat sources and direct exposure to sunlight.

7.3. Specific end use(s)
Industrial Manufacturing:
Handle with extreme caution.
Store in a well ventilated place away from heat sources.
Manufacture of food products:
Handle with care.
Store in a clean, dry, ventilated area away from heat and direct sunlight.
Keep container tightly closed.
SECTION 8. Exposure controls/personal protection

8.1. Control parameters

No data available.

8.2. Exposure controls

Appropriate engineering controls:

Industrial Manufacturing:
No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)

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

Public domain (administration, education, entertainment, services, craftsmen):
No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)

Individual protection measures:

(a) Eye / face protection
When handling the pure product use safety glasses (spectacles cage) (EN 166).

(b) Skin protection
(i) Hand protection
When handling the pure product use chemical resistant protective gloves (EN 374-1/EN374-2/EN374-3)
(ii) Other
When handling the pure product wear full protective skin clothing.

(c) Respiratory protection
Use adequate protective respiratory equipment (EN 141)

(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

<table>
<thead>
<tr>
<th>Physical and chemical properties</th>
<th>Value</th>
<th>Determination method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>micro white granules</td>
<td></td>
</tr>
<tr>
<td>Odour</td>
<td>odorless</td>
<td></td>
</tr>
<tr>
<td>Odour threshold</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6,0 ± 0,5 (20°C; sol. 1%)</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>not relevant</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
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<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>irrelevant</td>
<td>ASTM D92</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>irrelevant</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>irrelevant</td>
<td></td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>irrelevant</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>irrelevant</td>
<td></td>
</tr>
<tr>
<td>Vapour density</td>
<td>irrelevant</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>0,35-0,6 (20°C)</td>
<td></td>
</tr>
<tr>
<td>Solubility</td>
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<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>not relevant</td>
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</table>
### Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Determination method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Viscosity</td>
<td>not relevant</td>
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</tr>
<tr>
<td>Explosive properties</td>
<td>irrelevant</td>
<td></td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>irrelevant</td>
<td></td>
</tr>
</tbody>
</table>

### 9.2. Other information
No data available.

### SECTION 10. Stability and reactivity

#### 10.1. Reactivity
No reactivity hazards

#### 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
Exposure to heat

#### 10.5. Incompatible materials
None in particular.

#### 10.6. Hazardous decomposition products
Does not decompose when used for intended uses.

### SECTION 11. Toxicological information

#### 11.1. Information on toxicological effects
- ATE(mix) oral = ∞
- ATE(mix) dermal = ∞
- ATE(mix) inhal = ∞
- (a) acute toxicity: based on available data, the classification criteria are not met.
- (b) skin corrosion/irritation: based on available data, the classification criteria are not met.
- (c) serious eye damage/irritation: based on available data, the classification criteria are not met.
- (d) respiratory or skin sensitization: The product, if inhaled, can cause sensitization.
- (e) germ cell mutagenicity: based on available data, the classification criteria are not met.
- (f) carcinogenicity: based on available data, the classification criteria are not met.
- (g) reproductive toxicity: based on available data, the classification criteria are not met.
- (h) specific target organ toxicity (STOT) single exposure: based on available data, the classification criteria are not met.
- (i) specific target organ toxicity (STOT) repeated exposure: based on available data, the classification criteria are not met.
met.
(j) aspiration hazard: based on available data, the classification criteria are not met.

SECTION 12. Ecological information

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

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
The substance / mixture does NOT contain substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII

12.6. 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
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. Transport in bulk according to Annex II of MARPOL73/78 and IBC Code
Transport in bulk is not foreseen

SECTION 15. Regulatory information

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

15.2. Chemical safety assessment
No chemical safety assessment was carried out by the supplier

SECTION 16. Other information

16.1. Other information
Description of hazard statements set out in paragraph 3
H334 = May cause allergy or asthma symptoms or breathing difficulties if inhaled
Classification based on data of all mixture components
Main normative references:
Directive 1999/45/EC.
Directive 2001/60/EC.
Regulation 1272/2008/EC.
Regulation 2010/453/EC.
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Changes to the previous edition: conformity Reg. 830