SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006 (REACH)
Revision date: 04-May-2016
Print date: 09-May-2016
Version: 3
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Panzym AG XXL

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Trade name/designation: Panzym AG XXL

Additional information: The substance does not require registration according to REACH.

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Enzyme preparations are biocatalysts used in a variety of industrial processes within food manufacturing

1.3. Details of the supplier of the safety data sheet
Supplier (manufacturer/importer/only representative/downstream user/distributor):
Eaton Technologies GmbH
Langenlonsheim Branch
An den Nahewiesen 24
55450 Langenlonsheim
Germany
Telephone: +49 6704 204-0 (Diese Nummer ist nur zu Bürozeiten besetzt.)
Telefax: +49 6704 204-121
E-mail: SDB@Eaton.com
Website: www.eaton.com/filtration

1.4. Emergency telephone number
Emergency medical information: Giftinformationszentrum Mainz (German and English), 24h: +49 6131 19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 [CLP]:

<table>
<thead>
<tr>
<th>Hazard classes and hazard categories</th>
<th>Hazard statements</th>
<th>Classification procedure</th>
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</thead>
<tbody>
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<td>H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
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</tr>
</tbody>
</table>

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:

- GHS08 Health hazard

Signal word: Danger

- hazard statements for health hazards
  - H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- Precautionary statements Prevention
  - P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
  - P285: In case of inadequate ventilation wear respiratory protection.
Precautionary statements Response

P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

2.3. Other hazards

Adverse physicochemical effects:
On basis of test data.: none

Adverse human health effects and symptoms:
Repeated inhalation of enzyme dust or aerosols resulting improper handling may induce sensitization and may cause allergic type 1 reactions in sensitized individuals.
Irritant effect on the skin: mild irritant.
Irritant effect on the eye: mild irritant.

Adverse environmental effects:
On basis of test data. none

Other adverse effects:
The components in this formulation do not meet the criteria for classification as PBT or vPvB.
Further remarks: SECTION 11: Toxicological information

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Description:
Enzymes are defined as enzyme concentrate (dry matter basis).
Active enzymproteine (AEP): 20 - 30%

Hazardous ingredients / Hazardous impurities / Stabilisers:

<table>
<thead>
<tr>
<th>product identifiers</th>
<th>Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS No.: 9032-08-0</td>
<td>Amylase, gluco- Danger H334</td>
<td>30 – 50 Wt %</td>
</tr>
<tr>
<td>EC No.: 232-877-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REACH No.: 01-2119480439-28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
Accidental release measures high concentrations

Following inhalation:
Effects: May produce an allergic reaction.
Symptoms: May cause allergy or asthma symptoms or breathing difficulties if inhaled. Cough
Remove casualty to fresh air and keep warm and at rest. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

In case of skin contact:
Effects: Frequently or prolonged contact with skin may cause dermal irritation.
Symptoms: mild irritant.
After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, consult a physician.
IF ON CLOTHING: Take off immediately all contaminated clothing. Wash contaminated clothing prior to re-use.
After eye contact:
Effects: Irritating to eyes.
Symptoms: mild irritant.
In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion:
Effects: The following symptoms may occur: After ingestion Gastrointestinal complaints Nausea Vomiting
Symptoms: Irritant.
Rinse mouth immediately and drink plenty of water. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Carbon dioxide (CO2), Water mist., alcohol resistant foam, Dry extinguishing powder

Unsuitable extinguishing media:
none

5.2. Special hazards arising from the substance or mixture
May produce an allergic reaction.

5.3. Advice for firefighters
In case of fire: Wear self-contained breathing apparatus.

5.4. Additional information
No data available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Personal precautions:
See protective measures under point 7 and 8.

6.1.2. For emergency responders
No data available

6.2. Environmental precautions
No special environmental measures are necessary. Collect spillage.

6.3. Methods and material for containment and cleaning up
For cleaning up:
Conditions to avoid:generation/formation of aerosols. Generation/formation of dust
Take up by mechanical means preferably by a vacuum cleaner equipped with a high efficiency filter.
Flush remainder carefully with plenty of water. Avoid splashing and high pressure washing (avoid formation of aerosols).
Provide adequate ventilation.

6.4. Reference to other sections
No data available

6.5. Additional information
No data available
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advises on safe handling:

Conditions to avoid: generation/formation of aerosols. Generation/formation of dust
Provide adequate ventilation as well as local exhaustion at critical locations.
Liquid enzyme preparations are dust-free preparations. However, inappropriate handling may cause
formation of dust or aerosols. for appropriate handling, see section 6 and 7. Inhalation of enzyme dust or
aerosols resulting from handling may induce sensitization and may cause allergic reactions in sensitized
individuals. Prolonged skin contact may cause minor irritation.

Fire prevent measures:

No special fire protection measures are necessary.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels:

Keep container tightly closed in a cool, well-ventilated place.
storage temperature 0 - 10 °C

7.3. Specific end use(s)

Recommendation:
The product should be handled with the care usual when dealing with chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

8.2.2. Personal protection equipment

Eye/face protection:

Tightly sealed safety glasses.

Skin protection:

Thorough skin-cleansing after handling the product.
Hand protection: The selection of suitable gloves not only depends on the material, but also on other
quality characteristics. These may vary from manufacturer to manufacturer. Since the product is a
preparation from several substances, the resistance of glove materials cannot be determined in advance
and must therefore be checked prior to the application.
Suitable material: The glove material has to be impermeable and resistant to the product/the substance/
the preparation. Due to missing tests no recommendation to the glove material can be given for the
product/the preparation/the chemical mixture. Selection of the glove material on consideration of the
penetration times, rates of diffusion and the degradation.
Breakthrough time (maximum wearing time): The exact break through time has to be found out by the
manufacturer of the protective gloves nad has to be observed.

Respiratory protection:

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must
be worn.
Suitable respiratory protection apparatus: Particle filter device (DIN EN 143) P 3
See information supplied by the manufacturer.

Other protection measures:

Protective clothing: lab coat
General health and safety measures: The usual precautionary measures are to be adhered to when
handling chemicals.

8.2.3. Environmental exposure controls

No data available
Panzym AG XXL

8.3. Additional information
Human, inhalative, long term/repeated:
DNEL/DMEL : 60 ng/m³

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance
Physical state: liquid  Colour: brown
Odour: slight fermentation odour

Safety relevant basis data

<table>
<thead>
<tr>
<th>parameter</th>
<th>at °C</th>
<th>method</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freezing point</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature (°C):</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ignition temperature in °C</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapour density</td>
<td>not determined</td>
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<td></td>
</tr>
<tr>
<td>Density</td>
<td>1.15 g/ml</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulk density</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water solubility (g/L)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/ water</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.2. Other information
Odour, ph Value, Boiling Point, Melting Point, Flash Point, Ignition temperature, Vapour pressure, Density and Solubility are not relevant to safety. For further information see the Product Specification and the Product Sheet for this preparation.

SECTION 10: Stability and reactivity

10.1. Reactivity
not relevant

10.2. Chemical stability
Substance is, under normal conditions, chemically stable.

10.3. Possibility of hazardous reactions
No data available

10.4. Conditions to avoid
none

10.5. Incompatible materials
none

10.6. Hazardous decomposition products
This article doesn't contain dangerous substances or preparations intended to be released under normal or reasonably foreseeable conditions of use.
### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance name</th>
<th>Toxicological information</th>
</tr>
</thead>
<tbody>
<tr>
<td>9032-08-0</td>
<td>Amylase, gluco-</td>
<td><strong>LD&lt;sub&gt;50 oral&lt;/sub&gt;:</strong> 2,000 mg/kg OECD 401, 420</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation:**
- Irritant effect on the skin: OECD 404
- Not an irritant.
- Irritant effect on the eye: OECD 405
- Not an irritant.

**Respiratory or skin sensitisation:**
- May cause sensitization by inhalation.

**Carcinogenicity:**
- No indications of human germ cell mutagenicity exist.
- OECD 471 (Ames test)
- OECD 476

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Aquatic toxicity:**
- Acute Daphnia toxicity
  - EC<sub>50 (48h)</sub>: 31,7-457 mg aep/l (OECD 202)
- Algae toxicity
  - ErC<sub>50 (72h)</sub>: > 5,2 mg aep/l (OECD 201)
- Acute fish toxicity
  - LC<sub>50 (96h)</sub>: 58,3-326,7 mg aep/l (OECD 203)

**Terrestrial toxicity:**
- No data available

**Effects in sewage plants:**
- No data available

#### 12.2. Persistence and degradability

**Additional information:**
- Further ecological information: Partition coefficient: n-octanol/water: < 0
- The organic part of the product is biodegradable.
- According to the present state of knowledge negative ecological effects are not expected.

#### 12.3. Bioaccumulative potential

**Accumulation / Evaluation:**
- No indication of bioaccumulation potential.

#### 12.4. Mobility in soil

- not relevant

#### 12.5. Results of PBT and vPvB assessment

<table>
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<th>CAS No.</th>
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The components in this formulation do not meet the criteria for classification as PBT or vPvB.

#### 12.6. Other adverse effects

- No data available
SECTION 13: Disposal considerations

13.1. Waste treatment methods
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.
Do not allow to enter into surface water or drains.

Waste treatment options
Appropriate disposal / Package:
Non-contaminated packages may be recycled.

13.2. Additional information
No data available

SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

14.1. UN-No.
not relevant

14.2. UN proper shipping name
not relevant

14.3. Transport hazard class(es)
not relevant

14.4. Packing group
not relevant

14.5. Environmental hazards
not relevant

14.6. Special precautions for user
not relevant

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant

SECTION 15: Regulatory information

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

15.1.1. EU legislation
No data available

15.1.2. National regulations

[DE] National regulations
Water hazard class (WGK)
WGK:
1 - schwach wassergefährdend
Source:
S Selbsteinstufung

15.2. Chemical Safety Assessment
No data available

15.3. Additional information
No data available
**SECTION 16: Other information**

16.1. Indication of changes
No data available

16.2. Abbreviations and acronyms
No data available

16.3. Key literature references and sources for data
No data available

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

**Classification according to Regulation (EC) No 1272/2008 [CLP]:**

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16.5. Relevant R-, H- and EUH-phrases (Number and full text)

**Hazard statements**

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<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
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</table>

16.6. Training advice
No data available

16.7. Additional information
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.