

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

1.1. Product identifier

Product name : ENDOZYM AMG
Product code: refer to sales department

UFI code: MAAU-NXFO-X10R-EV9J

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:
Technological adjuvant for brewery 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 BRITAIN LTD - 5a Connaught Avenue, London, England, SW14 7RH -Tel:
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FRANCE Sarl - 10, rue du Stade - 68240 KAYSERSBERG-VIGNOBLE, France

1.4. Emergency telephone number

Emergency telephone number: 111
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SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

2.1.1 Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/758, and UK SI 2020/1577:

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) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567:

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 or a doctor.

Contains:

Glucoamylase

Ingredients : Glucoamylase, glycerol, glucose, potassium sorbate, sodium benzoate, water q.s. to 100.

Food use, brewery use. Not intended for the final consumer. In accordance with current regulations on the specific matter. Only for industrial use.

2.3. Other hazards

The substance / mixture does NOT contain substances PBT/vPvB according to Regulation No. 1907/2006(Reach) as amended, Annex XIII.

SECTION 3. Composition/information on ingredients

3.1 Substances

Not relevant.

3.2 Mixtures

Refer to paragraph 16 for full text of hazard statements

Substance	Concentration[w/w]	Classification	IUB n°	CAS	EINECS	UK REACH
Glucoamylase	≥10 < 25%	Resp. Sens. 1, H334	3.2.1.3	9032-08-0	232-877-2	**
Glycerol substance for which there are Community workplace exposure limits	≥5 < 10%			56-81-5	200-289-5	**

**Not applicable - Regulation No. 1907/2006 (Reach) as amended, Article 2(5).

SECTION 4. First aid measures

4.1. Description of first aid measures

Inhalation: Ventilate the contaminated area and immediately remove the patient to a well-ventilated area. Keep the patient rested and seek medical advice if unwell.

Direct contact with skin (of the pure product): Wash thoroughly with soap and running water. Immediately take off contaminated clothing.

Direct contact with eyes (of the pure product): Wash immediately and thoroughly with running water, keeping eyelids open for at least 10 minutes, then protect your eyes with a dry sterile gauze. Seek medical advice immediately. Do not use eye drops or ointments of any kind before the examination or advice from an ophthalmologist.

Ingestion: Not dangerous. Consult a doctor if you feel unwell

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 a 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

Advice for firefighters:

PPE: Use breathing apparatus (self-contained in confined spaces) appropriate head protection and protective clothing.

Keep product 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 sufficient ventilation.

Evacuate the danger zone and 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 (Personal Protective Equipment). Recover the product for reuse if uncontaminated, or for removal using a vacuum or with absorption with an insert material.

Prevent the material from entering sewer or water collection systems.

Dispose of the waste material in compliance with the regulations.

6.3.2 Cleaning up:

Following spillage, wash the surfaces of the area with water.

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 vapors.

Only handle the product after reading all other sections of this safety data sheet. Do not eat or drink while handling.

(See paragraph 8 below for substance specific information).

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 the original sealed packaging, away from light, in a cool, dry, odour-free place and at a temperature < 20°C. Do not freeze. Batch number (BN) and Best before date (EXP): See Barcode.

7.3. Specific end use(s)

Manufacture of food products.

Handle with Care. Store in a clean, dry and ventilated environment, away from heat and direct sunlight.

Keep container
tightly closed

Store in the original sealed packaging, away from light, in a cool, dry, odour-free place and at a temperature < 20°C. Do not freeze. Batch number (BN) and Best before date (EXP): See Barcode.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

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Occupational Exposure Limits:

Related to contained substances:

Glycerol CAS 56-81-5

Limit value - Eight hours

Australia 10 (1) mg/m³

Belgium 10 mg/m³

Canada - Ontario 10 mg/m³

Canada - Quebec 10 mg/m³

Finland 20 mg/m³

France 10 mg/m³

Germany (AGS) 200 (1) mg/m³

Germany (DFG) 200 (1) mg/m³

Ireland 10 mg/m³

New Zealand 10 (1) mg/m³

Poland 10 mg/m³

Singapore 10 mg/m³

South Africa Mining 10 ppm

South Korea 10 mg/m³

Spain 10 mg/m³

Switzerland 50 inhalable aerosols mg/m³

USA - OSHA 15 (1) mg/m³

5 (2) mg/m³

United Kingdom 10 mg/m³

Limit value - Short-term

Germany (AGS) 400 (1)(2) mg/m³

Germany (DFG) 400 (1)(2) mg/m³

Switzerland 100 inhalable aerosols mg/m³

Remarks

Australia (1) This value refers to inhalable dust containing no asbestos and < 1% crystalline silica.

Germany (AGS) (1) Inhalable fraction (2) Average value 15 minutes

Germany (DFG) (1) Inhalable fraction (2) Average value 15 minutes

New Zealand (1) The value for inhalable dusts containing no asbestos and less than 1% free silica.

USA - OSHA (1) Inhalable fraction (2) Breathable fraction

Biological limit values:

- Substance: Glucoamylase CAS 9032-08-0:

PNEC: Predicted no-effect concentration

Sweet water = 0,1037 (mg/l)

Sea water = 0,01037 (mg/l)

STP = 65 (mg/l)

ground = 0,0124 (mg/kg ground)

- Substance: Glycerol CAS 56-81-5:

DNEL: Derived No Effect Level f

Systemic effects Long term Workers inhalation = 56 (mg/m³)

PNEC: Predicted no-effect concentration

Sweet water = 0,885 (mg/l)

sediment Sweet water = 3,3 (mg/kg/sediment)

Sea water = 0,088 (mg/l)

sediment Sea water = 0,33 (mg/kg/sediment)

intermittent emissions = 8,85 (mg/l)

ground = 0,141 (mg/kg ground)



8.2. Exposure controls

Appropriate engineering controls:

Manufacturer of food products. Use as per instructions and in accordance with safe food production practices.

8.2.2 Individual protection measures:

(a) Eye / face protection

Not normally required unless defined by specific risk assessments.

(b) Skin protection

(i) Hand protection

Not normally required unless defined by specific risk assessments.

(ii) Other

Wear appropriate clothing to prevent reasonably probable skin contact

(c) Respiratory protection

Use adequate protective respiratory equipment (EN 14387:2008)

(d) Thermal hazards

No hazard to report

Hygiene measures: Wash hands thoroughly after handling. Do not eat, drink or smoke when handling..

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
Appearance	viscous liquid, brown	
Odour	Not determined because it is considered not relevant for characterization of the product	
Odour threshold	Not determined because it is considered not relevant for characterization of the product	
pH	4-5.5 (20°C, sol 100%)	
Melting point/freezing point	Not determined because it is considered not relevant for characterization of the product	
Initial boiling point and boiling range	Not determined because it is considered not relevant for characterization of the product	
Flash point	Not determined because it is considered not relevant for characterization of the product	

Evaporation rate	Not determined because it is considered not relevant for characterization of the product	
Flammability (solid, gas)	Not determined because it is considered not relevant for characterization of the product	
Upper/lower flammability or explosive limits	Not determined because it is considered not relevant for characterization of the product	
Vapour pressure	Not determined because it is considered not relevant for characterization of the product	
Vapour density	Not determined because it is considered not relevant for characterization of the product	
Relative density	0,950 - 1,300 (20°C)	
Solubility	in water	
Water solubility	Miscible in all proportions	
Partition coefficient: n-octanol/water	Not determined because it is considered not relevant for characterization of the product	
Auto-ignition temperature	Not determined because it is considered not relevant for characterization of the product	
Decomposition temperature	Not determined because it is considered not relevant for characterization of the product	
Viscosity	Not determined because it is considered not relevant for characterization of the product	
Explosive properties	Not determined because it is considered not relevant for characterization of the product	
Oxidising properties	Not determined because it is considered not relevant for characterization of the product	

9.2. Other information

No data available.

SECTION 10. Stability and reactivity

10.1. Reactivity

Related to contained substances

Glucoamylase CAS 9032-08-0: no risk of reactivity

Glycerol CAS 56-81-5: reacts with strong acids and bases

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

With regard to the substances contained:

Glucoamylase CAS 9032-08-0: not available
Glycerol CAS 56-81-5: humidity.

10.5. Incompatible materials

No one 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:

Glucoamylase: 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

Glycerol: 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

(b) skin corrosion/irritation:

Glucoamylase: No known significant data

Glycerol: Not classified

Glucoamylase: No known significant effects or critical hazards

Glycerol: Not classified

(c) serious eye damage/irritation:

Glucoamylase: No known significant data

Glycerol: Not classified

Glucoamylase: No known significant effects or critical hazards

Glycerol: Not classified

(d) respiratory or skin sensitisation: The product, if inhaled, can cause sensitization.

Glucoamylase: Respiratory sensitizer

Glycerol: Not classified

(e) germ cell mutagenicity:

Glucoamylase: Not classified

Glycerol: Not classified

(f) carcinogenicity:

Glucoamylase: Not classified

Glycerol: Not classified

(g) Reproductive toxicity:

Glucoamylase: Not classified

Glycerol: Not classified - Does not affect fertility. Non-toxic for development.

(h) specific target organ toxicity (STOT) single exposure:

Glucoamylase: Unavailable

Glycerol: Not classified Ingestion may cause nausea, vomiting and avoidance.

(i) specific target organ toxicity (STOT) repeated exposure

Glucoamylase: Once sensitised, a strong allergic reaction may occur when subsequently exposed to very low levels.

Glycerol: Not classified

(j) aspiration hazard:

Glucoamylase: May cause allergy or asthma symptoms or breathing difficulties if inhaled

Glycerol: Inhalation: May cause irritation to the respiratory tract and other mucous membranes.

Glycerol: Not classified

11.2. Information on other hazards

No data available.

SECTION 12. Ecological information**12.1. Toxicity**

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Related to contained substances:

Glucoamylase CAS 9032-08-0:

Acute toxicity - fish LC50 (mg / l / 96h): NA

Acute toxicity - crustaceans EC50 (mg / l / 48h): NA

Acute toxicity to algae ErC50 (mg / l / 72-96h): NA

Chronic toxicity - fish NOEC (mg / l): NA

Chronic toxicity - crustaceans NOEC (mg / l): NA

Chronic toxicity to algae NOEC (mg / l): NA

Glycerol CAS 56-81-5:

Acute aquatic toxicity: Not classified

Chronic aquatic toxicity: Not classified

LC50-96 h - fish 54000 mg / l *Oncorhynchus mykiss* EC50-48 h - *Daphnia* 1955 mg / l

EC50-72 h - algae 3200 mg / l *Entosiphon sulcatum*

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

12.2. Persistence and degradability

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Related to contained substances:

Glucoamylase CAS 9032-08-0:

readily biodegradable

Glycerol CAS 56-81-5:

Persistence and degradability Readily biodegradable.

COD value 1.16 g O₂ / g substance

ThOD (gO₂ / g) 1.217 g O₂ / g substance

BOD (% of ThOD) 71% DTO

12.3. Bioaccumulative potential

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Related to contained substances:
Glucoamylase CAS 9032-08-0: unavailable

Glycerol CAS 56-81-5:
Log P octanol / water at 20 ° C -1.76 - 2.6
Kow log -1.76 Bioaccumulative potential
Not expected to bioaccumulate.

12.4. Mobility in soil

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Related to contained substances:
Glucoamylase CAS 9032-08-0:
unavailable

Glycerol CAS 56-81-5:
ground Product that penetrates easily into the ground.

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 known adverse effects.

SECTION 13. Disposal considerations**13.1. Waste treatment methods****Residual waste**

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner and in accordance with local/regional/national/international regulations.

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied.

EU waste code

The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information

Incinerate. Incinerator should be appropriately for this product. Workers should wear appropriate personal protective equipment(s) such as respirator.

Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Do not allow this material to drain into sewers/water supplies

SECTION 14. Transport information

14.1. UN number or ID number

ADR/ADN/RID/IMDG/IATA: Not regulated.

14.2. UN proper shipping name

ADR/ADN/RID/IMDG/IATA: Not regulated.

14.3. Transport hazard class(es)

ADR/ADN/RID/IMDG/IATA: Not regulated.

14.4. Packing group

ADR/ADN/RID/IMDG/IATA: Not regulated.

14.5. Environmental hazards

ADR/ADN/RID/IMDG/IATA: Not regulated.

14.6. Special precautions for user

ADR/ADN/RID/IMDG/IATA: Not regulated.

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

ADR/ADN/RID/IMDG/IATA: 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 contained substances (All. XVII Reg. Reach as amended): not applicable
Substances in Candidate List (art. 59 UK Reach): the product does not contain SVHC
Substances subject to authorisation (Ann. XIV Reach as amended): the product does not contain SVHC

Regulation (EC) No 1169/2011, as amended: see 2.2

Regulation (EC) No 1332/2008, as amended: see 2.2

Regulation (EC) No 1333/2008, as amended: see 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: UFI code

Description of hazard statements set out in paragraph 3

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

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:

Regulation (EC) 1272/2008 (CLP Regulation) as amended

Regulation (EC) No. 1907/2006, REACH as amended

Regulation (EU) No 1169/2011 of the European Parliament and of the Council as amended

Regulation (EC) No 1332/2008 of the European Parliament and of the Council

Regulation (EC) No 1333/2008 of the European Parliament and of the Council

Regulation (EC) No 1331/2008 of the European Parliament and of the Council

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, as amended

Regulation (EC) No. 850/2004 On persistent organic pollutants, as amended

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, as amended

Regulation (EC) No. 166/2006 Pollutant Release and Transfer Registry, as amended

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended

Commission Regulation(EC) No 1881/2006 on contaminants in food

EC 1935/2004 and EU 10/2011 as amended on Food Contact materials

EU regulations Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

raining 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.

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstract Service number

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: Environment 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 concernant le transport International ferroviaire des marchandises 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>

- EH40/2005 Workplace exposure limits

- HSE Great Britain limit values: <https://www.hsl.gov.uk/>

- GB MCL-GB mandatory clas. and labelling list: <https://www.hse.gov.uk/chemical classification/>

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 editio

Changes from previous edition: insert UFI code