

MATERIAL SAFETY DATA SHEET

Date of compilation: 01/01/2012
Revision: 01/05/2015

In accordance with Regulation no. 1999/45/CE & 1272/2008/CE (CLP)

-1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier: Glucoamylase 200K (AMG 400L)

Synonyms – liquid enzymatic preparation

Formula – not applicable

Pure substance/preparation - preparation

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

Technology auxiliary (Biocatalyst) for industry

Sector of use – SU3(industrial)/SU10(formulation mixing and or repackaging/SU21

Sector of use: SU3 (Industrial uses) - SU10 Formulation (mixing of preparations and/or re-packaging) - SU21 Consumer uses) - SU22 (Professional uses)

Environmental release category: ERC2 (formulation of mixtures) – ERC4 (industrial use of processing aids in processes and products not becoming part of articles) – ERC8a (wide dispersive indoor use of processing aids in open systems)

1.3 Details of the supplier of the safety data sheet:

Enzyme Supplies Limited, John Eccles House, The Oxford Science Park, Oxford OX4 4GP, UK

1.4 Emergency telephone number and Email contact:

Tel. +44 1865 578 557 (out of hours +44 77178 17509) Email: info@enzymesupplies.com

2. Hazards identification

2.1 Classification of the substance or mixture

This product is a mixture/preparation and, therefore as per the Article 61(1) – classification according to the Directive 1272/2008 is not applicable until June 1st 2015.

Classification according to Directives 67/548/EEC – 1999/45/EC:

Xn – R42 ; R36/37/38

Nature of special risks attributed:

R42 - May cause sensitization by inhalation.

R36/37/38 – Irritating to eyes, respiratory system and skin

2.2. Label elements:

Warning symbols:



Xn - Harmful

Caution recommendations (S):

S23 - Do not breathe spray

S24 – Avoid contact with skin

S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S36/37 – Wear suitable protective clothing and gloves

Contains:

Glucoamylase enzyme protein

Properties affecting health

Inappropriate handling may cause formation of aerosols or dust. Inhalation of aerosols or dust may induce sensitization and may cause allergic reaction in sensitized individuals

Physical and chemical hazards –the data available does not support any physical or chemical hazard

Labelling according to regulation 1272/2008/CE (CLP)

Danger notice: Danger

Danger symbol:



H phrase:

H334 – may cause allergy or asthma symptoms or breathing difficulties if inhaled

H319 – may cause eye irritation

H335 – may cause respiratory irritation

P phrases:

P261 – avoid breathing dust/fumes/gas/mist/vapours/spray

P285 – in case of inadequate ventilation wear respiratory protection

P304 + P340 + P312 – if inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor or a poison centre if victim feels unwell

P342 + P311 – If experiencing respiratory symptoms call a doctor or a poison centre.

P280 – wear protective gloves/clothing/eye and face protection

P305 + P351 + P338 – if in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so.

P337 + P313 – if eye irritation persists, get medical advice/attention

P264 – wash hands thoroughly after handling

P302 + P352 – if on skin, wash with plenty of soap and water

P332 + P313 – if skin irritation occurs get medical advice/attention

P501 – dispose of contents/container according to local regulations

Glucoamylase 200K

2.3 Other dangers

The substance is not considered as a PBT or VPVB substance

3. Composition/Information on ingredients

Mixture

Chemical composition: Liquid preparation

Name	CLP Classification (Reg. 1272/2008)	DSD Classification (Dir. 1999/45/EEC)
Enzyme protein 8-15%	Resp. sens. 1; H334	Xn; R36/37/38-42
Cas No 9032-08-0	Eye irr. 2; H319	
Einecs - CE No 232-577-2	Skin irr. 2; H315	
IUB Code 3.2.1.3	STOT SE 3; H335	

The full text of hazard statements and risk phrases (R) is specified in section 16.

4. First-aid measures

4.1 Description of first aid measures

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms/difficulty breathing, seek medical advice.

Skin contact

Remove contaminated clothing and wash them before using them again.. Wash with plenty of water and soap. in case of irritation attributable to the product seek medical attention.

Eyes contact

Rinse immediately and copiously with clean, fresh water for at least 15 minutes, keeping eyeslid opened. Remove contact lenses if present and easy to do. If eye irritation persists get medical advice/attention.

Ingestion

Wash mouth with water immediately . Do not induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, seek immediate medical attention.

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

No information available

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

May cause allergic respiratory reaction

5. Fire-fighting measures

5.1 Extinguishing media

Advised extinguishing agents: CO₂, foam, chemical powder, nebulized water.

5.2. Special hazards arising from the substance or mixture

May cause sensitization by inhalation.

5.3. Advice for firefighters

Enzyme Supplies Limited

Glucoamylase 200K Pag.3/8

Glucoamylase 200K

Wear the self-contained breathing apparatus and full protection equipment in case of fire, all the time
Water used in fire-fighting has to be disposed following local regulation.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use only with adequate ventilation/personal protection. Avoid breathing dust or spray. Avoid formation of dust and aerosols.. In case of dusting use an adequate respiratory protection.

6.2. Environmental precautions

Collect the product in suitable container for disposal. Prevent further leakage or spillage. Do not allow to enter natural waters or soil, but notify authorities if product enters sewer or public waters.

6.3. Methods and material for containment and cleaning up

Use appropriate personal protection (see Section 8). Contain spilled product and take it up by mechanical means or with a vacuum cleaner equipped with a vacuum cleaner equipped with a high efficiency filter. After spillage avoid rasing aerosols or dust from dried preparation. Avoid splashing and high pressure washing (aerosols formation). Provide for sufficient ventilation. Wash with plenty of water. Place contaminated material into suitable containers and send them to the waste disposal.

7. Handling and storage

7.1. Precautions for safe handling

Avoid formation and breathing of dust or spray mist and direct contact with the product.
Use appropriate protection Handle according to the good industrial hygiene and safety procedures.
Do not smoke, eat or drink during the working processes. Supply good air circulation in working area.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a fresh (5-25°C) and well- ventilated place, far from sources of ignition.

7.3. Specific end use(s)

See section 1 for the suggested uses of the substance/preparation
Exposures scenarios for this products are under development.

8. Exposure controls/ personal protection

8.1 Control parameters:

Technical measures: use in a well ventilated environment

Hygiene measures: Do not eat, drink or smoke during use. Wash hands after handling and before eating, smoking or going to the toilet, and at the end of the day.

8.2 Control of exposure:

Enzyme Supplies Limited

Glucoamylase 200K Pag.4/8

Glucoamylase 200K

Respiratory system : wear a P3 dust mask

Skin and body: wear appropriate protective clothing

Eyes: Full mask

Hands: wear appropriate gloves

Control of exposure linked to protection of the environment:

Notify the local authorities if significant leaks cannot be contained

Wastewater must be evacuated to a purification/treatment plant

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Appearance	Brown liquid	
Odour	Slight fermentation odour	
pH	5,5-6,5	
Melting point/freezing point	not determined	
Initial boiling point and boiling range	not determined	
Flash point	> 100°C	PMCC
Evaporation rate	not available	
Flammability (solid, gas)	not applicable	
Upper/lower flammability or explosive limits	not applicable	
Vapour pressure	not determined	
Vapour density	not determined	
Density	1.0-1.1 Kg/l	
Solubility	soluble in water	
Water solubility	soluble	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	not applicable	
Decomposition temperature	not determined	
Viscosity	not available	
Explosive properties	not determined	
Oxidising properties	not determined	

10. Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

The product is stable under normal conditions of use and storage.

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur

10.4. Conditions to avoid

None known, a part aerosols formation.

Glucoamylase 200K

10.5. Incompatible materials

None in particular

10.6. Hazardous decomposition products

None known.

11. Toxicological information

Product information

Acute toxicity – complete preparation not expected to be toxic by ingestion

Dermal no Irritation - may cause skin and eye irritation. May cause slight respiratory irritation

Other effects – systemic toxicity (no data); sensitisation (may cause sensitisation by inhalation of enzyme mist/dust which may cause allergic respiratory reactions including asthma in susceptible individuals).

Mutagenic effects – OECD 471 bacterial reverse mutation test - negative

Carcinogenicity – contains no ingredients listed as carcinogenic

Reproductive effects – contains no known reproductive hazards

Developmental toxicity – not expected to produce developmental or reproductive toxicity

12. Ecological information

12.1. Toxicity

No information available. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

12.2. Persistence and degradability:

Enzymes are considered readily biodegradable.

12.3. Bioaccumulative potential:

Bioaccumulation is unlikely.

12.4. Mobility in soil:

The product is water soluble and may spread in water systems

12.5. Results of PBT and vPvB assessment:

The mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). The mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects:

None known

13. Disposal considerations

13.1. Waste treatment methods

Dispose of hazardous waste in compliance with local and national regulations.
Dispose of in accordance with the European Directives on waste and hazardous waste.

Empty containers should be taken to an approved waste handling site for recycling or disposal.
Dispose of in accordance with local regulations.

14. Transport information

The product is not classified as dangerous (nor regulated) for transport.

Annex II of MARPOL 73/78 and the IBC code dangerous goods – not dangerous goods in the meaning of ADR/RID, ADN, IMDG code, ICAO/IATA-DGR

15. Regulatory information

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

The substance complies with article 16 of regulation 689/2008 on the export and import of hazardous chemical products.

It complies with regulation 882/2004 relative to the official controls undertaken to check conformity with the legislation on animal feed and foodstuffs and regulation 178/2002 establishing the general prescriptions of the food legislation instituting the European Food Safety Authority and fixing procedures on the safety of foodstuffs.

15.2. Chemical safety assessment:

The substance has not been subject to an evaluation of chemical safety

16. Other information

Description of the sentences of risk set out in paragraph 3:

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

H315 = May cause skin irritation

H335 = May irritate the respiratory track.

Description of the safety advice (R) exposed to point 3:

R22 = harmful if swallowed

R36 = Irritating to eyes

R37/38 = Irritating for the respiratory track and the skin

R42 = May cause sensitization by inhalation.

Classification based by calculation on data of all components of the mixture.

Additional information

The format of this safety data sheet complies with regulation CE/453/2010. A REACH registration number may be allocated to enzymes owing to their possible technical applications. Enzymes used as manufacturing auxiliaries for the 'food' or 'feed' product industries are exempt from REACH registration, including the establishing of scenarios of exposure. The legislation in force applicable to these areas must be taken into account.

GENERAL BIBLIOGRAPHY:

1. Directive 1999/45/EC as amended
2. Directive 67/548/EEC and its amendments and adjustments (technical adjustment XXIX)
3. Regulation (EC) 1907/2006 of the European Parliament (REACH)
4. Regulation (EC) 1272/2008 of the European Parliament (CLP)
5. Regulation (EC) 790 / 2009
6. Regulation (EU) 453/2010
7. The Merck Index. Ed 10
8. Handling Chemical Safety
9. NIOSH - Registry of Toxic Effects of Chemical Substances
10. INRS - Fiche Toxicologique
11. Patty - Industrial Hygiene and Toxicology
12. NI Sax - Dangerous Properties of Industrial Materials-7, 1989 Edition

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product. This document must not be regarded as a guarantee on any specific product property. The use of this product is not subject to our direct control, therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

This sheet cancels and substitutes any previous edition.