SAFETY DATA SHEET

According to Regulation (EC) 1907/2006 as retained in GB CLP regulations

SECTION 1 Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier:

Product Name	Clarizyme Plus
CAS No.	Not applicable
EC No.	Not applicable
REACH Registration No.	Not applicable

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

Identified Use(s)	Brewing enzyme
Uses Advised Against	None identified

1.3 Details of the Supplier of the Safety Data Sheet:

Company Identification	Lallemand UK Ltd
Address of Manufacturer	AB Vickers, Dallow Street, Burton on Trent
Postal code	DE14 2PQ
Telephone:	+44 (0)1283563268
E-mail	abvickers@lallemand.com (only checked during office hours)
Office hours	09:00 to 17:00, Monday to Friday, UK

1.4 Emergency Telephone Number:

++44 (0)1283563268 (office hours only as above)

SECTION 2 Hazards Identification

2.1 Classification of the substance or mixture:

2.1.1 Classification: According to Regulation (EC) No. 1272/2008 (CLP)
Resp. Sens. 1 (H334)

2.2 Label elements

Labelling according to regulation (EC) No.1272/2008 (CLP)

Hazard Pictograms:



GHS-08

Signal Word: Danger

Hazard Statements: H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statements

P284 - Wear respiratory protection
P261 - Avoid breathing vapour
P304 + P340: IF INHALED: 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 or doctor/physician
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations

2.3 Other hazards
Not known

2.4 Additional Information
For full text of H/ P phrases see Section 16.

SECTION 3. Composition / Information on Ingredients

3.2 Mixtures:
This mixture contains substances presenting a health or environmental hazard within the meaning of Regulation (EC) No. 1272/2008, and assigned a Community Workplace Exposure Limit (WEL), classified as PBT/vPvB or included in the Candidate List. See Section 8 for OELs.

Hazardous ingredients	CAS No	EC No	CLP Classification	w/w%
endopeptidase	9001-92-7	232-642-4	Resp. Sens. 1 (H334) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)	1 - 10%
Potassium (E,E)-hexa-2,4-dienoate	24634-61-5	246-376-1	Eye Irrit. 2 (H319)	≤ 3

Other ingredients do not impact on the classification of the mixture

SECTION 4 First Aid Measures

4.1 Description of first aid measures

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained

personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.

Skin Contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye Contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4.2 Most important symptoms and effects, both acute and delayed
Breathing difficulties. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged or repeated skin contact may be irritating.

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: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None identified.

5.2 Special hazards arising from the substance or mixture:
None identified
Hazardous combustion products: Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for fire-fighters:
Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

SECTION 6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Avoid generation of aerosols. Ensure adequate ventilation.

6.2 Environmental precautions:
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Method and materials for containment and cleaning up:
Contain or absorb spillage with inert material.
Place absorbents in suitable containers for disposal according to local regulations.

6.4 Reference to other sections:
See also Section 8 and Section 13.

SECTION 7 Handling and Storage

7.1 Precautions for safe handling:
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

7.2 Conditions for safe storage, including any incompatibilities:
Keep container tightly closed in a dry and well-ventilated place. Protect from light. Keep/store only in original container.

7.3 Specific end use(s)
Brewing enzyme

SECTION 8 Exposure Controls / Personal Protection

8.1 Control parameters:

Occupational Exposure Limit (EH40/2005)						
Substance	CAS #	LTEL (8 Hr. TWA ppm)	LTEL (8 Hr. TWA mg/m^3)	STEL (ppm)	STEL (mg/m^3)	Note
peptidase	9001-92-7					No data available
Potassium (E,E)-hexa-2,4-dienoate	24634-61-5					No data availabkle

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Ensure that eyewash stations and safety showers are close to the workstation location. Transfer via enclosed lines. Carefully handle the substance to minimise release. Avoid producing aerosols

8.2.2 Personal protection equipment:

8.2.2.1 Eyes and face protection:	Safety goggles with side protection or full face visor, (EN166).
8.2.2.2 Skin protection:	Hands protection: During processing chemical resistant gloves should be worn, (EN374-2).
8.2.2.3 Respiratory protection:	If ventilation is insufficient, suitable respiratory protection must be provided (mask with P3 filter).
8.2.3. Environmental Exposure Controls	Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

SECTION 9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

Appearance:	Liquid
Colour:	brown
Odour:	typical fermentation odour
Viscosity:	No data available
Density:	No data available
Solids Content:	No data available
Flash Point:	No data available
Initial Boiling Point and Boiling Range:	No data available
Solubility in Water:	soluble in water
Vapour Pressure:	No data available
Vapour Density:	No data available
Auto Ignition Temperature:	No data available
Evaporation Rate:	No data available
Decomposition Temperature:	No data available
Explosive Properties:	No data available
Upper/Lower Flammability or Explosive Limits:	No data available
Oxidising Properties:	No data available
pH:	approx. 4

9.2 Other Information
None.

SECTION 10 Stability and Reactivity

10.1 Reactivity:
None anticipated

10.2 Chemical stability:
Stable under normal conditions

10.3 Possibility of hazardous reactions:
No hazardous reactions are known

10.4 Conditions to avoid:
No data available

10.5 Incompatible materials:
No data available.

10.6 Hazardous decomposition products
No data available

SECTION 11 Toxicological Information

11.1 Information on toxicological effects

Acute toxicity - Ingestion	Not classified. The ingredient, endopeptidase has LD50 (oral) >5000 mg/kg in rats
Acute toxicity - Skin Contact	Not classified.
Acute toxicity - Inhalation	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Skin sensitization data	Not classified.
Respiratory sensitization data	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Lactation	Not classified.
STOT - single exposure	Not classified. The ingredient, endopeptidase, is STOT Cat 3 re respiratory tract irritation.
STOT - repeated exposure	Not classified.
Aspiration hazard	Not classified.

11.2 Other information

Inhalation:	May cause sensitisation
Skin Contact:	There may be mild irritation
Eye Contact:	No data available
Ingestion:	No data available

SECTION 12 Ecological Information

12.1 Toxicity:

Toxicity - Aquatic invertebrates	Not classified
Toxicity - Fish	Not classified
Toxicity - Algae	Not classified
Toxicity - Sediment Compartment	Not classified.
Toxicity - Terrestrial Compartment	Not classified.

12.2. Persistence and degradability
Not known

12.3. Bio-accumulative potential
Not known.

12.4. Mobility in soil
Not known

12.5. Results of PBT and vPvB Assessment
The mixture does not contain any known PBT or a vPvB.

12.6. Other adverse effects
Not known

SECTION 13 Disposal Considerations

13.1. Waste treatment methods
Dispose of wastes in an approved waste disposal facility. Dispose of contents/containers in accordance with local regulations.

13.2 Additional information
Disposal should be in accordance with local, state or national legislation.

SECTION 14 Transport Information

14.1 UN number
UN No.	N/A

14.2 UN proper shipping name
UN proper shipping name	N/A

14.3 Transport hazard class
ADR/RID Class	N/A
IMDG Class	N/A
IMDG EMS	N/A

ICAO/IATA

Excepted Quantities	N/A
Passenger and Cargo Aircraft Limited Quantities	N/A

Packing Instructions	
Passenger and Cargo Aircraft Limited Quantities Max net Qty	N/A
Passenger and Cargo Aircraft Packing Instructions	N/A
Passenger and Cargo Aircraft Max net Qty	N/A
Cargo Aircraft Packing Instructions	N/A
Cargo Aircraft Max net Qty	N/A
IATA Special Provisions	N/A

ADR Classification Code	N/A
ADR HIN	N/A
ADR Transport Category	N/A
Tunnel Restriction Code	N/A
Emergency Action Code	N/A

14.4 Packing group

Packing group	N/A
Labels	

Special Provisions	N/A
Limited Quantities	N/A
Excepted Quantities	N/A
Mixed Packing Instructions for Packages	N/A
Special Packing Provisions for Packages	N/A
Mixed Packing Instructions for Packages	N/A

14.5 Environmental hazards

Environmental hazards	None

14.6 Special precautions for user

None

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

Packing Instructions for Portable Tanks	N/A
Special Provisions for Portable Tanks	N/A
Tank Code for Tanks	N/A
Special Provisions for Tanks	N/A
Vehicle for Tank Carriage	N/A
Special Provisions for Carriage - Packages	N/A
Special Provisions for Carriage - Bulk	N/A
Special Provisions for Carriage - Loading, Unloading and Handling	N/A
Special Provisions for Carriage - Operation	N/A

SECTION 15 Regulatory Information

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

REACH: Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	None
Community Rolling Action Plan (CoRAP)	Not listed

This Safety Data Sheet was prepared in accordance with EC Regulation (EC) No. 1907/2006 as retained in GB CLP regulations. The product has been classified in accordance with Regulation (EC) No. 1272/2008 (CLP)

15.2. Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out for this mixture by the supplier.

SECTION 16 Other Information

LEGEND

Hazard Pictograms:



GHS-08

Hazard Statements:
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary Statements
P284 - Wear respiratory protection
P261 - Avoid breathing vapour
P304 + P340: IF INHALED: 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 or doctor/physician
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations

Abbreviations:

CAS: Chemical Abstracts Service;

EINECS:	European Inventory of Existing Commercial Chemical Substances
PBT:	Persistent, Bioaccumulative and Toxic.
vPvB:	Very Persistent and Very Bioaccumulative.

References:

Supplier's Safety Data Sheets for ingredients
ECHA REACH dossiers
Approved Classification and Labelling Guide
Regulation (EC) No. 1272/2008 of the European Parliament and of the council

Version history:

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Sections changed from previous version:	

Disclaimer

The information in this safety data sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.
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