Scientific & Technical™

MATERIAL SAFETY DATA SHEET

Date of compilation: 07/05/2024

In accordance with Regulation EU1272/2008 CLP (annex 2) amendment 2020/878 V4 APRIL 2020

V1.1/Lipase/MSDS

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

1.1 Product identifier: **Lipase**
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 the Detergent industry and other technical markets
Sector of use – SU3(indstrial)/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)

Product category: PC35 – washing and cleaning products (including solvent based products)
1.3 Details of the supplier of the safety data sheet:
Scientific and Technical Limited, John Eccles House, The Oxford Science Park, Oxford OX4 4GP, UK

1.4 Emergency telephone number and Email contact:
Tel. +441223626543 Email: sales@scientificandtechnical.com

2. Hazards identification

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/vapors/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 + P 352 – 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

Contains:
Lipase enzyme protein, propylene glyocol

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)
Lipase Cas No 9001-62-1 Einecs - CE No 232-619-9 IUB Code 3.1.1.3 REACH: 01-2119972939-13	< 5% aep	Resp. sens 1 H334
Propylene glycol Cas No 57-55-6 ENECS No 200-338-0	30-50	Not classified

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: CO_2, 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
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 raising 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

	Lipase (as active enzyme protein)	Propylene Glycol
UNITED KINGDOM - WEL	TWA= 0,00004 mg/mc	10mg/mc particulate 474 mg/mc total particulate and vapour 150ppm total particulate and vapour
UNITED KINGDOM - MEL	0,00012 mg/mc	450 ppm total particulate and vapour 1422mg/mc total particulate and vapour 30mg/mc particulate
IRELAND	TWA= 0,00006 mg/mc STEL= 0,00006 mg/m3	TWA: 10mg/mc TWA: 470 mg/mc TWA: 150ppm
DENMARK	Ceiling= 0,00006 mg/mc	
AUSTRIA		
SWEDEN	LLV= 3 glycine unit/mc LLV= 1 glycine unit/mc	
GERMANY		
FINLAND		
FRANCE		
ITALY		
NORWAY		TWA: 25ppm TWA: 75mg/mc
THE NETHERLANDS		
PORTUGAL	Ceiling= 0,00006 mg/mc	
ESPANA	VLA-EC= 0,00006 mg/mc	
SWITZERLAND	STEL= 0,00006 mg/mc	
LITHUANIA		IPRV 7mg/mc
RUSSIA		
ESTONIA		
LATVIA		TWA 7mg/mc
POLAND		

Derived no affect level (DNEL) Workers – for lipase, acute short term exposure (local effect) dermal 0.2% w/w Long term exposure (local effect) dermal 0.2% w/w General population/consumers – for lipase acute short term exposure (local effect) dermal 0.2% w/w Long term exposure (local effect) dermal 0.2% w/w Derived minimal effect level (DMEL) Workers – for lipase, long term exposure (systemic effect) inhalation 60ng/mc Long term exposure (local effect) inhalation 60ng/mc General population/consumers – for lipase long term exposure (systemic effect) inhalation 15ng/mc Long term exposure (local effect) inhalation 15ng/mc

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:

Exposure controls Handle in accordance with good industrial hygiene and safety procedures: do not eat, drink or smoke while handling it. Accurately wash the hands with soap and water before meals. Avoid all unnecessary exposure and prevent contact with skin, eyes and clothing. Regular cleaning of equipment. Ensure adequate ventilation. Equipment should be designed to minimise the escape of aerosols or dust Individual protection The DPI choice must be done on the basis of the test's results obtained according to EN 374 Hand protection : protective gloves (nitrile rubber) complying with EN 374 Eye protection : safety glasses (goggles) with side-shields Skin and body protection : wear suitable protective clothing Respiratory protection : maintain adequate ventilation. When facing concentrations above the exposure limits, certified respirators, with a particle filter P3 (EN 143) or FFP1 are recommended. Environmental exposure controls: Avoid dispersion to the environment.

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	5.5-7.0	
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.

10.5. Incompatible materials
None in particular

10.6. Hazardous decomposition products
None known.

11. Toxicological information

Propylene Glycol:

Oral – LD50/oral/rat: 20 g/Kg Dermal – LD50/dermal/rabbit = 20800mg/Kg Eye irritation – mild eye irritation Sensitisation – may cause sensitisation in susceptible persons Mutagenic effects – negative in Ames assays up to 10,000µg/plate

Lipase:

Oral – LD50/oral/rat = >2000 mg/kg bw (OECD TG401, 420) Dermal – not irritating (OECD TG 404) Eye irritation – not irritating (OECD TG 405) Skin irritation – not irritating (OECD TG 404) Respiratory sensitizer – sensitizer (human experience) Reproductive effects – not expected to produce reproductive or developmental toxicity Mutagenic effects – no indication of mutagenic effects Systemic toxicity – in a 90 day feeding study with rats, no indication of mutagenic effects (OECD TG 471, 476)

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

Does not bioaccumulate

Algae, acute	Fish, acute	Daphnia, acute	Persistence and degradability
ErC50 (72h): >18mg aep/l (OECD TG201)	LC50: >68.3mg/l (96 h) aep/l (OECD TG201)	EC5O/48 h/Daphnia: >37.4 mg aep/lt (OECD TG 202)	Readily Biodegradable: (OECD 301) partition coefficient (n-octanol/water) Log Pow:<0

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, ADNR, 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.

The product complies with regulation no. 689/2008 concerning the export and import of dangerous chemicals Article 16 WGK classification: 1

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.

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 auxillaries 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.