

PROTEASE (ECO DETERGENT) - SAFETY DATA SHEET

SECTION 1

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

1.1 Product identifier

Item	Information
Product name	Subtilisin Protease (Eco Detergent)
Product type	Liquid enzyme preparation; mixture
Supplier product reference	Bio-Protease 800L; material number 3600-W0PG-J00J-4EJ6

1.2 Relevant identified uses and uses advised against

Biocatalyst / technological auxiliary for the detergent industry and other technical markets; washing and cleaning products (PC35). Supplier-identified uses: SU3 industrial; SU10 formulation, mixing or repackaging; SU21 consumer; SU22 professional. Release categories: ERC2, ERC4, ERC8a. Consumer or professional use requires a product-specific exposure and risk assessment. Do not use for medical, diagnostic or therapeutic purposes.

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, United Kingdom
Telephone: +44 1223 626543
Email: sales@scientificandtechnical.com
Website: www.scientificandtechnical.com

1.4 Emergency telephone number

Supplier: +44 1223 626543 (English; normal UK business hours). For a life-threatening emergency in the UK call 999. For urgent medical advice call NHS 111.

SECTION 2

Hazards identification

2.1 Classification of the substance or mixture

Based on the hazard codes in Section 2 of the Enzyme Supplies Bio-Protease 800L SDS, V1.1 (01.01.2026):

Hazard class	Category / statement
Respiratory sensitisation	Category 1; H334
Serious eye damage	Category 1; H318
Skin irritation	Category 2; H315
Specific target organ toxicity - single exposure	Category 3 (respiratory irritation); H335
Hazardous to the aquatic environment	Chronic Category 3; H412

Source qualification: the supplier SDS contains internal inconsistencies. Section 2 is used as the working hazard basis; the points requiring supplier confirmation are recorded in Section 16. This revision assumes the supplied Eco Detergent product is the same, undiluted formulation.

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SECTION 2

Hazards identification (continued)

2.2 Label elements

**DANGER**

Hazard-determining component: Subtilisin

Hazard statements

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H318 - Causes serious eye damage.

H315 - Causes skin irritation.

H335 - May cause respiratory irritation.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

P261 - Avoid breathing mist/vapours/spray.

P264 - Wash hands thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P284 - In case of inadequate ventilation, wear respiratory protection.

P302+P352 - IF ON SKIN: Wash with plenty of water.

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 - Call a POISON CENTRE/doctor if you feel unwell.

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

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTRE/doctor.

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local and national regulations.

2.3 Other hazards

Supplier reports no PBT/vPvB substances at or above 0.1% and no identified human-health or environmental endocrine disruptors at or above 0.1%. Aerosols, spray and dust from dried residues may cause enzyme sensitisation.

SECTION 3

Composition/information on ingredients

3.2 Mixtures - Liquid enzyme preparation.

Component	Content	Identifiers	Component classification
Subtilisin	5.9%	CAS 9014-01-1 EC 232-752-2 IUB 3.4.21.62 REACH 01-2119480434-38	Acute Tox. 4 H302; Skin Irrit. 2 H315; Eye Dam. 1 H318; Resp. Sens. 1 H334; STOT SE 3 H335; Aquatic Acute 1 H400
Propylene glycol	30-50%	CAS 57-55-6 EC 200-338-0	Not classified

The remainder of the formulation is not disclosed. Boric acid is not listed in the supplier V1.1 composition. No analytical confirmation of its absence is provided. See Section 16 for source limitations and full hazard wording.

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SECTION 4

First-aid measures

4.1 Description of first-aid measures

General: Remove contaminated clothing; wash before reuse. Seek medical advice if symptoms occur.

Inhalation: Move to fresh air and keep comfortable for breathing. Seek immediate medical advice for breathing difficulties or allergic respiratory symptoms. Call a poison centre/doctor if unwell.

Skin: Wash with plenty of water and soap. Obtain medical advice if irritation occurs.

Eyes: Immediately rinse thoroughly with clean water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do; continue rinsing. Immediately call a poison centre/doctor because serious eye damage is indicated.

Ingestion: Rinse mouth immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

4.2 Most important symptoms and effects

Serious eye damage, skin irritation and respiratory irritation. Inhalation of enzyme mist or dust may cause allergic respiratory reactions, including asthma, in susceptible individuals. Effects may be delayed.

4.3 Immediate medical attention and special treatment

Treat symptomatically. Immediate assessment is indicated after eye exposure. Consider enzyme-induced respiratory sensitisation when respiratory symptoms are present.

SECTION 5

Firefighting measures

5.1 Extinguishing media: Carbon dioxide, foam, dry chemical powder or water spray, appropriate to the surrounding fire.

5.2 Special hazards: May cause sensitisation by inhalation. Avoid breathing smoke and enzyme-containing aerosols.

5.3 Advice for firefighters: Wear self-contained breathing apparatus and full protective equipment. Contain and dispose of firefighting water in accordance with local requirements.

SECTION 6

Accidental release measures

6.1 Personal precautions: Ventilate the area. Avoid direct contact and inhalation of spray, mist or dried residues. Wear the protective equipment in Section 8.

6.2 Environmental precautions: Prevent further leakage and entry to drains, natural waters or soil. Notify the appropriate authority if sewers, public waters or soil are contaminated.

6.3 Containment and cleaning: Collect mechanically or with suitable absorbent into closed containers for disposal. If vacuum recovery is used, use suitable equipment with a high-efficiency filter. Avoid splashing, high-pressure washing and aerosol or dust generation. Wash the affected area after recovery, collecting contaminated wash water for appropriate disposal.

6.4 References: See Sections 8 and 13.

SECTION 7

Handling and storage

7.1 Safe handling: Avoid direct contact, spraying and aerosol formation. Use adequate ventilation and appropriate protection. Do not eat, drink or smoke while handling. Wash hands after use.

7.2 Storage: Store tightly closed at 5-25 °C in a cool, well-ventilated place, away from ignition sources. Keep upright and protect from contamination. Store locked up.

7.3 Specific end uses: See Section 1. No exposure scenario was supplied.

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SECTION 8

Exposure controls/personal protection

8.1 Control parameters

Great Britain workplace exposure limits (HSE EH40/2005, fourth edition, 2020). Values are 8-hour time-weighted averages; no substance-specific 15-minute limits are listed for these entries.

Substance / fraction	8-hour WEL	Notes
Subtilisins	0.00004 mg/m ³	40 ng/m ³ ; Sen (respiratory sensitiser)
Propylene glycol: total vapour and particulates	150 ppm / 474 mg/m ³	Propane-1,2-diol
Propylene glycol: particulates	10 mg/m ³	Particulate fraction

Prevent exposure to enzyme aerosols. As an asthmagen, airborne subtilisin exposure must be reduced as low as reasonably practicable. The supplier's separate legacy "MEL" entries are not presented as current WELs. Reference: <https://www.hse.gov.uk/pubns/priced/eh40.pdf>

Supplier-reported DNEL / DMEL values for subtilisin

Population / route	Value and effect
Workers and consumers: dermal DNEL	0.2% w/w; acute and long-term local effects
Workers: inhalation DMEL	60 ng/m ³ ; long-term systemic and local effects
Consumers: inhalation DMEL	15 ng/m ³ ; long-term systemic and local effects

These supplier values are reproduced as reported and do not replace the GB WEL or the requirement to minimise sensitiser exposure.

Supplier-reported PNEC values for subtilisin

Compartment	PNEC
Fresh water	0.06 µg/L
Sea water	0.006 µg/L
Intermittent release (water)	0.9 µg/L
Sewage treatment plant	65,000 µg/L
Soil	568 µg/L (supplier unit; basis requires confirmation)

8.2 Exposure controls

Control	Recommended measure
Engineering	Use closed handling and effective local exhaust where aerosols can form. Design and clean equipment to prevent aerosol or dust escape.
Respiratory protection	Where engineering controls are insufficient, use suitable respiratory protection with a P3 particulate filter (EN 143), selected by a competent person and fit-tested where required.
Hands	Nitrile protective gloves compliant with EN 374; select thickness and breakthrough time for the formulation and task.
Eyes / face	Close-fitting chemical splash goggles; add a face shield where splashing is possible.
Skin / hygiene	Wear suitable protective clothing. Wash hands before meals; remove and wash contaminated clothing.
Environment	Prevent uncontrolled release. Collect waste and contaminated wash water for suitable treatment.

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SECTION 9

Physical and chemical properties

9.1 Information on basic physical and chemical properties

Property	Value / information
Physical state / colour	Amber/brown liquid
Odour	Typical of fermentation
Melting / freezing point	Not determined
Initial boiling point / range	Not determined
Flammability	Supplier entry for solids/gases: not applicable; no liquid flammability test supplied
Lower / upper explosive limits	Not applicable (supplier report)
Flash point	>100 °C (PMCC)
Auto-ignition temperature	Not applicable (supplier report)
Decomposition temperature	Not determined
pH	5.0-6.0
Kinematic viscosity	No data available
Solubility	Soluble in water
Partition coefficient: n-octanol/water	No data available
Vapour pressure	Not determined
Density	1.07 g/cm ³ (1.07 kg/L)
Relative vapour density	Not determined
Particle characteristics	Not applicable (liquid)

9.2 Other information

Evaporation rate: not available. Explosive and oxidising properties: not determined. Values are supplier-reported; no additional finished-product measurements were supplied.

SECTION 10

Stability and reactivity

Subsection	Information
10.1 Reactivity	No data available.
10.2 Chemical stability	Stable under normal conditions of use and storage.
10.3 Hazardous reactions	Hazardous polymerisation does not occur according to supplier information.
10.4 Conditions to avoid	Formation of aerosols. Follow the storage conditions in Section 7.
10.5 Incompatible materials	None specifically identified by the supplier.
10.6 Hazardous decomposition products	None known according to supplier information.

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SECTION 11 Toxicological information

11.1 Information on hazard classes

Hazard class	Assessment based on supplier information
Acute toxicity	Supplier does not expect oral toxicity at <10% subtilisin. No dermal or inhalation toxicity data supplied for the mixture.
Skin corrosion / irritation	Skin Irrit. 2; H315, following supplier Section 2.
Serious eye damage / irritation	Eye Dam. 1; H318, following supplier Section 2 hazard code.
Respiratory / skin sensitisation	Resp. Sens. 1; H334. May cause asthma or allergic respiratory reactions following inhalation of mist/dust. No skin sensitisation data supplied.
Germ cell mutagenicity	No data available.
Carcinogenicity	Supplier reports no ingredients listed as carcinogenic.
Reproductive toxicity	Supplier reports no known reproductive hazards; developmental or reproductive toxicity is not expected. Not classified on this supplied information.
STOT - single exposure	STOT SE 3; H335, following supplier Section 2.
STOT - repeated exposure	No data available.
Aspiration hazard	No data available.

Likely routes and symptoms: Inhalation, skin/eye contact and accidental ingestion. Skin and respiratory irritation, serious eye damage and allergic respiratory symptoms may occur. No numerical mixture toxicity estimates were supplied. See Section 16 regarding contradictory source wording.

11.2 Information on other hazards

Supplier reports no substances identified as having human-health endocrine-disrupting properties at concentrations of 0.1% w/w or greater. No additional toxicological information was supplied.

SECTION 12 Ecological information

Subsection	Information
12.1 Toxicity	H412 used from supplier Section 2: harmful to aquatic life with long lasting effects. Subtilisin is reported toxic to aquatic organisms. No finished-mixture test data supplied.
12.2 Persistence / degradability	Enzymes are considered readily biodegradable; no mixture test data supplied.
12.3 Bioaccumulative potential	Bioaccumulation is unlikely according to supplier information.
12.4 Mobility in soil	Water-soluble; may spread in water systems.
12.5 PBT / vPvB assessment	Supplier reports no substances meeting PBT or vPvB criteria.
12.6 Endocrine-disrupting properties	No identified environmental endocrine disruptors at $\geq 0.1\%$ w/w, according to the supplier.
12.7 Other adverse effects	None known. Supplier reports no AOX.

SECTION 13 Disposal considerations

13.1 Waste treatment methods: Dispose of product residues and contaminated packaging through an authorised waste contractor in accordance with local and national requirements. Prevent uncontrolled discharge to drains. Assign a waste code according to the actual use and source. Empty containers completely and send to an approved recycling or disposal site.

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SECTION 14 Transport information

Supplier reports the product is not classified as dangerous goods for transport.

Item	ADR/RID, IMDG and ICAO-TI/IATA-DGR
14.1 UN number or ID number	Not assigned
14.2 UN proper shipping name	Not assigned
14.3 Transport hazard class	Not regulated
14.4 Packing group	Not assigned
14.5 Environmental hazards	Not classified as environmentally hazardous for transport
14.6 Special precautions	Keep containers closed, upright and protected from damage and extreme temperatures.
14.7 Maritime transport in bulk	Not applicable to the product as supplied.

SECTION 15 Regulatory information

15.1 Safety, health and environmental regulations: UK REACH and GB CLP, as applicable in Great Britain; COSHH 2002, as amended. Comply with applicable workplace, environmental and waste requirements. Supply in the EU/EEA or Northern Ireland requires review against the applicable local REACH/CLP requirements. Supplier information on substances of very high concern is stated as not available.

15.2 Chemical safety assessment: Not available for the mixture.

SECTION 16 Other information

Full hazard-statement wording:

H302 - Harmful if swallowed.

H315 - Causes skin irritation.

H318 - Causes serious eye damage.

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 - May cause respiratory irritation.

H400 - Very toxic to aquatic life.

H411 - Toxic to aquatic life with long lasting effects (source conflict only).

H412 - Harmful to aquatic life with long lasting effects.

Revision 2.4 - 16.09.2026: Updated using Enzyme Supplies Limited, Bio-Protease 800L SDS V1.1, compiled 01.01.2026. Replaces the formulation basis of Version 2.3 (02.09.2026). Subtilisin changed from 1-5% to 5.9%; propylene glycol retained at 30-50%; boric acid and the associated H360FD classification removed because the new source does not list boric acid and reports no known reproductive hazards. H319 replaced by H318; H315, H335 and H412 added. Updated physical properties, first aid, exposure controls and environmental information. Scientific and Technical product identity and contact details retained.

Classification basis and source issues requiring confirmation: Supplier Section 2 hazard codes are the working basis; no independent mixture classification calculation or analytical testing was performed. Confirm that Eco Detergent Protease is the same undiluted formulation and that the previous boric-acid declaration is superseded. Supplier Section 2 states H412, but Section 16 lists H411; this revision uses H412 pending clarification. Supplier Section 11 states that the mixture does not meet classification requirements, contradicting Section 2; that statement is not adopted. H318 wording and eye first aid have been aligned with serious eye damage. The supplier soil PNEC unit requires confirmation. Supplier lists both P3 and FFP1 respiratory protection; this revision retains P3 subject to competent assessment. Legacy MEL entries are excluded; current published EH40 WELs are used.

Sources: The two supplied SDS documents; HSE EH40/2005 (2020), <https://www.hse.gov.uk/pubns/priced/eh40.pdf> (checked 16.09.2026).

Abbreviations: CLP: classification, labelling and packaging; COSHH: control of substances hazardous to health; DNEL: derived no-effect level; DMEL: derived minimal-effect level; PNEC: predicted no-effect concentration; WEL: workplace exposure limit; PBT/vPvB: persistent, bioaccumulative and toxic / very persistent and very bioaccumulative; STOT: specific target organ toxicity; AOX: adsorbable organic halogens.

Training and disclaimer: Train personnel in enzyme sensitisation, aerosol prevention, spill response and PPE use. Information describes health, safety and environmental hazards and is not a guarantee of product properties. Supplier confirmation of the above discrepancies is required before external issue.