

SAFETY DATA SHEET

Complex Proteomics Standard, Part Number 400510

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	: Complex Proteomics Standard, Part Number 400510		
CAS number	: Proteomics Grade	9002-07-7	
	Trypsin		
	Pfu Protein Extract	Not applicable.	
	Proteomics Standard		
Part no. (chemical kit)	: 400510		
Part no.	: Proteomics Grade	204310-51	
	Trypsin		
	Pfu Protein Extract	400510-51	
	Proteomics Standard		

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

Identified uses	: Analytical reagent.		
	Proteomics Grade Trypsin		2 x 0.1 mg
	Pfu Protein Extract Proteomics Standard		0.5 mg
Uses advised against	: None known.		

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Deutschland GmbH
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition	: Proteomics Grade	Mono-constituent substance
	Trypsin	
	Pfu Protein Extract	Mixture
	Proteomics Standard	

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Proteomics Grade

Trypsin

H315	SKIN CORROSION/IRRITATION	Category 2
H319	SERIOUS EYE DAMAGE/EYE IRRITATION	Category 2
H334	RESPIRATORY SENSITISATION	Category 1
H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation)	Category 3

Proteomics Grade Trypsin The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Pfu Protein Extract Proteomics Standard The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

SECTION 2: Hazards identification

Ingredients of unknown toxicity : Pfu Protein Extract Percentage of the mixture consisting of ingredient(s) of
Proteomics Standard unknown acute inhalation toxicity: > 60%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms : Proteomics Grade Trypsin



Signal word : Proteomics Grade Trypsin Danger

Pfu Protein Extract No signal word.
Proteomics Standard

Hazard statements : Proteomics Grade Trypsin H315 - Causes skin irritation.

H319 - Causes serious eye irritation.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 - May cause respiratory irritation.
Pfu Protein Extract No known significant effects or critical hazards.
Proteomics Standard

Precautionary statements

Prevention : Proteomics Grade Trypsin P280 - Wear protective gloves. Wear eye or face protection.

Pfu Protein Extract P261 - Avoid breathing dust or mist.
Proteomics Standard Not applicable.

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

Pfu Protein Extract P342 + P311 - If experiencing respiratory symptoms: Call a
Proteomics Standard POISON CENTER or doctor.
Not applicable.

Storage : Proteomics Grade Trypsin P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Pfu Protein Extract Not applicable.
Proteomics Standard

Disposal : Proteomics Grade Trypsin P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Pfu Protein Extract Not applicable.
Proteomics Standard

Supplemental label elements : Proteomics Grade Trypsin Not applicable.

Pfu Protein Extract Not applicable.
Proteomics Standard

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Proteomics Grade Trypsin Not applicable.

Pfu Protein Extract Not applicable.
Proteomics Standard

Special packaging requirements

Tactile warning of danger : Proteomics Grade Trypsin Not applicable.

Pfu Protein Extract Not applicable.
Proteomics Standard

SECTION 2: Hazards identification

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

PBT	P	B	T	vPvB	vP	vB
Proteomics Grade Trypsin						
No	N/A	N/A	No	N/A	N/A	N/A

Pfu Protein Extract Proteomics Standard This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification

Proteomics Grade Trypsin May form combustible dust concentrations in air.
Pfu Protein Extract Proteomics Standard None known.

SECTION 3: Composition/information on ingredients

3.1 Substances : Proteomics Grade Trypsin Mono-constituent substance
Pfu Protein Extract Proteomics Standard Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Proteomics Grade Trypsin trypsin	EC: 232-650-8 CAS: 9002-07-7 Index: 647-010-00-7	100	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335 See Section 16 for the full text of the H statements declared above.	-	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

Proteomics Grade Trypsin [1] Constituent

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

Proteomics Grade Trypsin 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.

Pfu Protein Extract Proteomics Standard Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation

Proteomics Grade Trypsin 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 case of inhalation of

SECTION 4: First aid measures

decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

Pfu Protein Extract
Proteomics Standard

: Proteomics Grade
Trypsin

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Pfu Protein Extract
Proteomics Standard

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion

: Proteomics Grade
Trypsin

Wash out mouth with water. Remove dentures if any. 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.

Pfu Protein Extract
Proteomics Standard

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.

Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders

: Proteomics Grade
Trypsin

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Pfu Protein Extract
Proteomics Standard

No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact

: Proteomics Grade
Trypsin
Pfu Protein Extract
Proteomics Standard

Causes serious eye irritation.

No known significant effects or critical hazards.

Inhalation

: Proteomics Grade
Trypsin
Pfu Protein Extract
Proteomics Standard

May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

No known significant effects or critical hazards.

Skin contact

: Proteomics Grade
Trypsin
Pfu Protein Extract
Proteomics Standard

Causes skin irritation.

No known significant effects or critical hazards.

Ingestion

: Proteomics Grade
Trypsin
Pfu Protein Extract
Proteomics Standard

No known significant effects or critical hazards.

No known significant effects or critical hazards.

SECTION 4: First aid measures

Over-exposure signs/symptoms

Eye contact	: Proteomics Grade Trypsin	Adverse symptoms may include the following: pain or irritation watering redness No specific data.
	Pfu Protein Extract Proteomics Standard	
Inhalation	: Proteomics Grade Trypsin	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma No specific data.
	Pfu Protein Extract Proteomics Standard	
Skin contact	: Proteomics Grade Trypsin	Adverse symptoms may include the following: irritation redness No specific data.
	Pfu Protein Extract Proteomics Standard	
Ingestion	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	No specific data. No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: Proteomics Grade Trypsin	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Pfu Protein Extract Proteomics Standard	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	No specific treatment. No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Use dry chemical powder. Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture. None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	May form explosible dust-air mixture if dispersed. No specific fire or explosion hazard.
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SECTION 5: Firefighting measures

Hazardous combustion products	: Proteomics Grade Trypsin	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	Pfu Protein Extract Proteomics Standard	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides phosphorus oxides
5.3 Advice for firefighters		
Special precautions for fire-fighters	: Proteomics Grade Trypsin	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
	Pfu Protein Extract Proteomics Standard	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Proteomics Grade Trypsin	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	Pfu Protein Extract Proteomics Standard	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Proteomics Grade Trypsin	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Pfu Protein Extract Proteomics Standard	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders	: Proteomics Grade Trypsin	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Pfu Protein Extract Proteomics Standard	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

SECTION 6: Accidental release measures

6.2 Environmental precautions	: Proteomics Grade Trypsin	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Pfu Protein Extract Proteomics Standard	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	: Proteomics Grade Trypsin	Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
	Pfu Protein Extract Proteomics Standard	Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections	: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.
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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	: Proteomics Grade Trypsin	Put on appropriate personal protective equipment (see Section 8). Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Pfu Protein Extract Proteomics Standard	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: Proteomics Grade Trypsin	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Pfu Protein Extract Proteomics Standard	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

SECTION 7: Handling and storage

Storage	: Proteomics Grade Trypsin	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Pfu Protein Extract Proteomics Standard	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not available. Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures

: Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Proteomics Grade Trypsin trypsin	DMEL	Long term Inhalation	15 ng/m ³	General population	Local
	DMEL	Long term Inhalation	60 ng/m ³	Workers	Local

PNECs

SECTION 8: Exposure controls/personal protection

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Proteomics Grade Trypsin	Solid. [Crystals./ Powder.]
	Pfu Protein Extract Proteomics Standard	Solid. [Enzyme.]
Colour	: Proteomics Grade Trypsin	Clear. Yellow.
	Pfu Protein Extract Proteomics Standard	Not available.
Odour	: Proteomics Grade Trypsin	Odourless.
	Pfu Protein Extract Proteomics Standard	Not available.

SECTION 9: Physical and chemical properties

Odour threshold	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not available. Not available.
Melting point/freezing point	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	115°C Not available.
Initial boiling point and boiling range	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not available. Not available.
Flammability	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not available. Not available.
Upper/lower flammability or explosive limits	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not applicable. Not applicable.
Flash point	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not applicable. Not applicable.
Auto-ignition temperature	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not applicable. Not applicable.
Decomposition temperature	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not available. Not available.
pH	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not available. Not available.
Viscosity	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not applicable. Not applicable.
Solubility(ies)	: Media	Result
	Proteomics Grade Trypsin water	Soluble
	Pfu Protein Extract Proteomics Standard water	Soluble
Partition coefficient: n-octanol/water	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not available. Not applicable.
Vapour pressure	: Not available.	
Evaporation rate	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not available. Not available.
Relative density	: Proteomics Grade Trypsin Pfu Protein Extract Proteomics Standard	Not available. Not available.

SECTION 9: Physical and chemical properties

Vapour density	: Proteomics Grade Trypsin	Not applicable.
	Pfu Protein Extract Proteomics Standard	Not applicable.
Explosive properties	: Proteomics Grade Trypsin	Not available.
	Pfu Protein Extract Proteomics Standard	Not available.
Oxidising properties	: Proteomics Grade Trypsin	Not available.
	Pfu Protein Extract Proteomics Standard	Not available.

Particle characteristics

Median particle size	: Proteomics Grade Trypsin	Not available.
	Pfu Protein Extract Proteomics Standard	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: Proteomics Grade Trypsin	No specific test data related to reactivity available for this product or its ingredients.
	Pfu Protein Extract Proteomics Standard	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: Proteomics Grade Trypsin	The product is stable.
	Pfu Protein Extract Proteomics Standard	The product is stable.
10.3 Possibility of hazardous reactions	: Proteomics Grade Trypsin	Under normal conditions of storage and use, hazardous reactions will not occur.
	Pfu Protein Extract Proteomics Standard	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Proteomics Grade Trypsin	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.
	Pfu Protein Extract Proteomics Standard	No specific data.
10.5 Incompatible materials	: Proteomics Grade Trypsin	Reactive or incompatible with the following materials: oxidising materials
	Pfu Protein Extract Proteomics Standard	May react or be incompatible with oxidising materials.
10.6 Hazardous decomposition products	: Proteomics Grade Trypsin	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Pfu Protein Extract Proteomics Standard	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Proteomics Grade Trypsin trypsin	LD50 Oral	Rat	>5 g/kg	-

Acute toxicity estimates

N/A

Irritation/Corrosion

Skin : May cause skin sensitisation.

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Proteomics Grade Trypsin trypsin	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Proteomics Grade Trypsin Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Pfu Protein Extract Not available.
Proteomics Standard

Potential acute health effects

Inhalation : Proteomics Grade Trypsin May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Pfu Protein Extract No known significant effects or critical hazards.
Proteomics Standard

Ingestion : Proteomics Grade Trypsin No known significant effects or critical hazards.
Pfu Protein Extract No known significant effects or critical hazards.
Proteomics Standard

Skin contact : Proteomics Grade Trypsin Causes skin irritation.
Pfu Protein Extract No known significant effects or critical hazards.
Proteomics Standard

Eye contact : Proteomics Grade Trypsin Causes serious eye irritation.
Pfu Protein Extract No known significant effects or critical hazards.
Proteomics Standard

Symptoms related to the physical, chemical and toxicological characteristics

SECTION 11: Toxicological information

Inhalation	: Proteomics Grade Trypsin	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma
	Pfu Protein Extract Proteomics Standard	No specific data.
Ingestion	: Proteomics Grade Trypsin	No specific data.
	Pfu Protein Extract Proteomics Standard	No specific data.
Skin contact	: Proteomics Grade Trypsin	Adverse symptoms may include the following: irritation redness
	Pfu Protein Extract Proteomics Standard	No specific data.
Eye contact	: Proteomics Grade Trypsin	Adverse symptoms may include the following: pain or irritation watering redness
	Pfu Protein Extract Proteomics Standard	No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary : Not available.

General	: Proteomics Grade Trypsin	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
	Pfu Protein Extract Proteomics Standard	No known significant effects or critical hazards.
Carcinogenicity	: Proteomics Grade Trypsin	No known significant effects or critical hazards.
	Pfu Protein Extract Proteomics Standard	No known significant effects or critical hazards.
Mutagenicity	: Proteomics Grade Trypsin	No known significant effects or critical hazards.
	Pfu Protein Extract Proteomics Standard	No known significant effects or critical hazards.
Reproductive toxicity	: Proteomics Grade Trypsin	No known significant effects or critical hazards.
	Pfu Protein Extract Proteomics Standard	No known significant effects or critical hazards.

11.2 Information on other hazards

SECTION 11: Toxicological information

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Proteomics Grade Trypsin trypsin	OECD 301B Ready Biodegradability - CO2 Evolution Test	100 % - Readily - 29 days	-	Activated sludge

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Proteomics Grade Trypsin trypsin	No	N/A	N/A	No	N/A	N/A	N/A

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 13: Disposal considerations

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

No listed substance

Label : Proteomics Grade Trypsin Not applicable.
Pfu Protein Extract Not applicable.
Proteomics Standard

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

SECTION 15: Regulatory information

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: Not determined.
Canada	: Not determined.
China	: All components are listed or exempted.
Eurasian Economic Union	: Russian Federation inventory : Not determined.
Japan	: Japan inventory (CSCL) : Not determined. Japan inventory (ISHL) : All components are listed or exempted.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

📄 Indicates information that has changed from previously issued version.

Abbreviations and acronyms	: ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative
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[Procedure used to derive the classification according to Regulation \(EC\) No. 1272/2008 \[CLP/GHS\]](#)

SECTION 16: Other information

Classification	Justification
Proteomics Grade Trypsin Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335	Regulatory data Regulatory data Regulatory data Regulatory data

Full text of abbreviated H statements

Proteomics Grade Trypsin H315 H319 H334 H335	Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.
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Full text of classifications [CLP/GHS]

Proteomics Grade Trypsin Eye Irrit. 2 Resp. Sens. 1 Skin Irrit. 2 STOT SE 3	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 RESPIRATORY SENSITISATION - Category 1 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3
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Date of issue/ Date of revision : 31/10/2023

Date of previous issue : No previous validation

Version : 1

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