

# 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  
**Part No. (Kit)** : 400510  
**Part No.** : Pfu Protein Extract 400510-51  
Proteomics Standard  
Proteomics Grade 204310-51  
Trypsin

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

Identified uses	
Analytical reagent.	
Pfu Protein Extract Proteomics Standard	0.5 mg
Proteomics Grade Trypsin	0.2 mg

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG  
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** : Pfu Protein Extract Mixture  
Proteomics Standard  
Proteomics Grade Mono-constituent substance  
Trypsin

#### 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 SENSITIZATION - Category 1  
H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

**Ingredients of unknown toxicity** : Pfu Protein Extract Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 100%  
Proteomics Standard  
Proteomics Grade Trypsin Not applicable.

**Ingredients of unknown ecotoxicity** : Pfu Protein Extract Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 100%  
Proteomics Standard  
Proteomics Grade Trypsin Not applicable.

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

**Date of issue/Date of revision** : 07/01/2016

**SECTION 2: Hazards identification**

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

**2.2 Label elements****Hazard pictograms****Signal word**

: Pfu Protein Extract  
Proteomics Standard  
Proteomics Grade  
Trypsin

No signal word.  
Danger

**Hazard statements**

: Pfu Protein Extract  
Proteomics Standard  
Proteomics Grade  
Trypsin

No known significant effects or critical hazards.

**GHS07 -**  
Causes skin irritation.  
May cause respiratory irritation.  
Causes serious eye irritation.

**GHS08 -**  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Precautionary statements****Prevention**

: Pfu Protein Extract  
Proteomics Standard  
Proteomics Grade  
Trypsin

Not applicable.  
P280 - Wear protective gloves. Wear eye or face protection.  
P261 - Avoid breathing dust.

**Response**

: Pfu Protein Extract  
Proteomics Standard  
Proteomics Grade  
Trypsin

Not applicable.  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician.

**Storage**

: Pfu Protein Extract  
Proteomics Standard  
Proteomics Grade  
Trypsin

Not applicable.  
P405 - Store locked up.

**Disposal**

: Pfu Protein Extract  
Proteomics Standard  
Proteomics Grade  
Trypsin

Not applicable.  
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients**

: **Proteomics Grade Trypsin**  
Trypsin

**Supplemental label elements**

: Pfu Protein Extract  
Proteomics Standard  
Proteomics Grade  
Trypsin

Not applicable.  
Not applicable.

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

: Pfu Protein Extract  
Proteomics Standard  
Proteomics Grade  
Trypsin

Not applicable.  
Not applicable.

**Special packaging requirements****Tactile warning of danger**

: Pfu Protein Extract  
Proteomics Standard  
Proteomics Grade  
Trypsin

Not applicable.  
Not applicable.

**SECTION 2: Hazards identification****2.3 Other hazards**

<b>Other hazards which do not result in classification</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	None known.  May form explosible dust-air mixture if dispersed. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.
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**SECTION 3: Composition/information on ingredients**

<b>3.2 Mixtures</b>	: Pfu Protein Extract Standard Proteomics Grade Trypsin	Mixture  Mono-constituent substance
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Product/ingredient name	Identifiers	%	Classification	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  <b>See Section 16 for the full text of the H statements declared above.</b>	[A]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard  
 [2] Substance with a workplace exposure limit  
 [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII  
 [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII  
 [5] Substance of equivalent concern  
 [A] Constituent  
 [B] Impurity  
 [C] Stabilising additive

**SECTION 4: First aid measures****4.1 Description of first aid measures**

<b>Eye contact</b>	: Pfu Protein Extract Proteomics Standard  Proteomics Grade Trypsin	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.  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.
<b>Inhalation</b>	: Pfu Protein Extract Proteomics Standard  Proteomics Grade Trypsin	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.  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,

**SECTION 4: First aid measures**

		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 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.
<b>Skin contact</b>	: Pfu Protein Extract Proteomics Standard	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	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.
<b>Ingestion</b>	: Pfu Protein Extract Proteomics Standard	Wash out mouth with water. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Proteomics Grade Trypsin	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.
<b>Protection of first-aiders</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No action shall be taken involving any personal risk or without suitable training. 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.

**4.2 Most important symptoms and effects, both acute and delayed**

Potential acute health effects

<b>Eye contact</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No known significant effects or critical hazards. Causes serious eye irritation.
<b>Inhalation</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No known significant effects or critical hazards. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin contact</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No known significant effects or critical hazards. Causes skin irritation.
<b>Ingestion</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No known significant effects or critical hazards. No known significant effects or critical hazards.

**SECTION 4: First aid measures****Over-exposure signs/symptoms**

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

**4.3 Indication of any immediate medical attention and special treatment needed**

<b>Notes to physician</b>	: Pfu Protein Extract Proteomics Standard  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.  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.
<b>Specific treatments</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No specific treatment.  No specific treatment.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

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

**5.2 Special hazards arising from the substance or mixture**

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

<b>Hazardous combustion products</b>	: Pfu Protein Extract Proteomics Standard	Decomposition products may include the following materials:  carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	Proteomics Grade Trypsin	Decomposition products may include the following materials:  carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
 <b>5.3 Advice for firefighters</b>		
<b>Special precautions for fire-fighters</b>	: 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.
	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.
<b>Special protective equipment for fire-fighters</b>	: 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.
	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.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: 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 spilled material. Put on appropriate personal protective equipment.
	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 spilled 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.
<b>For emergency responders</b>	: 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".
	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".



**SECTION 6: Accidental release measures**

<b>6.2 Environmental precautions</b>	: 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).
	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).

**6.3 Methods and material for containment and cleaning up**

<b>Methods for cleaning up</b>	: 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.
	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.

<b>6.4 Reference to other sections</b>	: 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**

<b>Protective measures</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Put on appropriate personal protective equipment (see Section 8). 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.
	<b>Advice on general occupational hygiene</b>	: Pfu Protein Extract Proteomics Standard  Proteomics Grade Trypsin

## SECTION 7: Handling and storage

<b>7.2 Conditions for safe storage, including any incompatibilities</b>	: 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.
	Proteomics Grade Trypsin	Storage temperature: -20°C (-4°F). 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 oxidizing 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.
<b>7.3 Specific end use(s)</b>		
<b>Recommendations</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Industrial applications, Professional applications.  Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not applicable.  Not applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### **Recommended monitoring procedures**

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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

No DNELs/DMELs available.

#### PNECs

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.



**SECTION 8: Exposure controls/personal protection****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****9.1 Information on basic physical and chemical properties****Appearance**

<b>Physical state</b>	: Pfu Protein Extract Proteomics Standard	Solid. [Enzyme.]
	Proteomics Grade Trypsin	Solid. [Crystals. Powder.]
<b>Colour</b>	: Pfu Protein Extract Proteomics Standard	Not available.
	Proteomics Grade Trypsin	Clear. Yellow.
<b>Odour</b>	: Pfu Protein Extract Proteomics Standard	Not available.
	Proteomics Grade Trypsin	Odourless.
<b>Odour threshold</b>	: Pfu Protein Extract Proteomics Standard	Not available.
	Proteomics Grade Trypsin	Not available.
<b>pH</b>	: Pfu Protein Extract Proteomics Standard	Not available.
	Proteomics Grade Trypsin	Not available.
<b>Melting point/freezing point</b>	: Pfu Protein Extract Proteomics Standard	Not available.
	Proteomics Grade Trypsin	115°C

**SECTION 9: Physical and chemical properties**

<b>Initial boiling point and boiling range</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Flash point</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Evaporation rate</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Flammability (solid, gas)</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Upper/lower flammability or explosive limits</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Vapour pressure</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Vapour density</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Relative density</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Solubility(ies)</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Auto-ignition temperature</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Decomposition temperature</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Viscosity</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Explosive properties</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.
<b>Oxidising properties</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available. Not available.

**SECTION 9: Physical and chemical properties****9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	The product is stable.  The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No specific data.  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.
<b>10.5 Incompatible materials</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	May react or be incompatible with oxidising materials.  Reactive or incompatible with the following materials:  oxidizing materials
<b>10.6 Hazardous decomposition products</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Under normal conditions of storage and use, hazardous decomposition products should not be produced. 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**

Not available.

**Irritation/Corrosion**

**Conclusion/Summary** : Not available.

**Sensitiser**

**Conclusion/Summary** : Not available.

**Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity**

Not available.

**Specific target organ toxicity (single exposure)**

## SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
<b>Proteomics Grade Trypsin</b> Trypsin	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Pfu Protein Extract Proteomics Standard  
Proteomics Grade Trypsin

Not available.  
Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

**Inhalation** : Pfu Protein Extract Proteomics Standard  
Proteomics Grade Trypsin

No known significant effects or critical hazards.  
May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Ingestion** : Pfu Protein Extract Proteomics Standard  
Proteomics Grade Trypsin

No known significant effects or critical hazards.  
No known significant effects or critical hazards.

**Skin contact** : Pfu Protein Extract Proteomics Standard  
Proteomics Grade Trypsin

No known significant effects or critical hazards.  
Causes skin irritation.

**Eye contact** : Pfu Protein Extract Proteomics Standard  
Proteomics Grade Trypsin

No known significant effects or critical hazards.  
Causes serious eye irritation.

### Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation** : Pfu Protein Extract Proteomics Standard  
Proteomics Grade Trypsin

No specific data.  
Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma

**Ingestion** : Pfu Protein Extract Proteomics Standard  
Proteomics Grade Trypsin

No specific data.  
No specific data.

**Skin contact** : Pfu Protein Extract Proteomics Standard  
Proteomics Grade Trypsin

No specific data.  
Adverse symptoms may include the following:  
irritation  
redness

**Eye contact** : Pfu Protein Extract Proteomics Standard  
Proteomics Grade Trypsin

No specific data.  
Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

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

#### Short term exposure

**SECTION 11: Toxicological information**

**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**

<b>General</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No known significant effects or critical hazards.  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.
<b>Carcinogenicity</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No known significant effects or critical hazards.  No known significant effects or critical hazards.
<b>Mutagenicity</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No known significant effects or critical hazards.  No known significant effects or critical hazards.
<b>Teratogenicity</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No known significant effects or critical hazards.  No known significant effects or critical hazards.
<b>Developmental effects</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No known significant effects or critical hazards.  No known significant effects or critical hazards.
<b>Fertility effects</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	No known significant effects or critical hazards.  No known significant effects or critical hazards.
<b>Other information</b>	: Pfu Protein Extract Proteomics Standard Proteomics Grade Trypsin	Not available.  Not available.

**SECTION 12: Ecological information****12.1 Toxicity**

**Conclusion/Summary** : Not available.

**12.2 Persistence and degradability**

Not available.

**12.3 Bioaccumulative potential**

Not available.

**12.4 Mobility in soil**

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

**Mobility** : Not available.

## SECTION 12: Ecological information

### 12.5 Results of PBT and vPvB assessment

- PBT** : Not applicable.  
**vPvB** : Not applicable.

**12.6 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.

**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 spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

### Regulatory information

**ADR/RID / IMDG / IATA** : Not regulated.

**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 Annex II of Marpol and the IBC Code** : 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** : Pfu Protein Extract Not applicable.  
 Proteomics Standard  
 Proteomics Grade Not applicable.  
 Trypsin

#### Other EU regulations

**Europe inventory** : All components are listed or exempted.



## SECTION 15: Regulatory information

### Seveso Directive

This product is not controlled under the Seveso Directive.

### National regulations

#### International regulations

### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

### Montreal Protocol (Annexes A, B, C, E)

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

### Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### International lists

#### National inventory

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (ENCS)</b> : Not determined. <b>Japan inventory (ISHL)</b> : Not determined.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are listed or exempted.

**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]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

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

**SECTION 16: Other information**

**Full text of abbreviated H 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.

**Full text of classifications [CLP/GHS]** : **Proteomics Grade Trypsin**

Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2  
 Resp. Sens. 1, H334 RESPIRATORY SENSITIZATION - Category 1  
 Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2  
 STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

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**Date of previous issue** : No previous validation.

**Version** : 1

**Notice to reader**

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