



Section	1. Identification
Product Name	Animal Free Thermolysin
Product Code	002-3000
Chemical Name	Purified thermolysin from <i>Bacillus thermoproteolyticus</i> 'rokko'
Synonyms	Thermophilic bacterial protease
Intended Application	Purified enzyme for the release of cells from a tissue matrix
Manufacturer	VitaCyte, LLC 1341 Sadlier Circle West Drive Indianapolis, IN 46239
Technical Phone #	317-917-3457
Section	2. Hazard(s) Identification
Hazard Classification	GHS Classification in accordance with 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) Skin Irritation (Category 2), H315 Eye Irritation (Category 2A), H319 Respiratory Sensitization (Category 1), H334 Skin sensitization (Category 1), H317 Specific Target Organ Toxicity – Single Exposure (Category 3), Respiratory System , H335
Pictograms	
Signal Word	Danger
Hazard Statements	<p>H315 Causes skin irritation</p> <p>H317 May cause an allergic skin reaction</p> <p>H319 Causes serious eye irritation</p> <p>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled</p> <p>H335 May cause respiratory irritation</p>
Precautionary Statements	<p>P261 Avoid breathing dust/fume/gas/mist/spray.</p> <p>P264 Wash skin thoroughly after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P280 Wear eye protection/ face protection.</p> <p>P280 Wear protective gloves.</p> <p>P285 In case of inadequate ventilation wear respiratory protection.</p> <p>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.</p> <p>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and</p>

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easy to do. Continue rinsing.

- P321** Specific treatment (see supplemental first aid instructions on this label).
- P333 + P313** If skin irritation or rash occurs: Get medical advice/attention.
- P337 + P313** If eye irritation occurs: Get medical advice/attention.
- P342 + P311** If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
- P362** Take off contaminated clothing and wash before reuse.
- P403 + P233** Store in a well-ventilated place. Keep container tightly closed.
- P405** Store locked up.
- P501** Dispose of contents/container to an approved waste disposal plant.

Section	3. Composition/Information on Ingredients
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Component	CAS-No	Weight %
Thermolysin	9073-78-3	100 %

Section	4. First-Aid Measures
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Eyes	In case of contact, immediately wash eyes with copious amounts of water for at least 15 minutes.
Skin	In case of contact, wash skin with soap and copious amounts of water. Remove contaminated clothing and shoes.
Inhalation	If swallowed, wash out mouth with water provided person is conscious. Call a physician.
Ingestion	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call Poison Control Center or seek medical attention.

Section	5. Fire-Fighting Measures
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Suitable Extinguishing Media	Water spray, carbon dioxide, dry chemical powder, or appropriate foam
Unsuitable Extinguishing Media	No information available
Autoignition Temperature	Not applicable
Explosion Hazard	No information available
Hazardous Combustion Products	Carbon monoxide, carbon dioxide
Firefighting Precautions	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
NFPA Rating	Health 1 / Flammability 0 / Instability 0 / Physical Hazards N/A

Section	6. Accidental Release Measures
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Personal Precaution	Keep bottle tightly closed and avoid forming dust.
Emergency Procedures	Ventilate area and evacuate personnel to safe area.
Containment	Soak up liquid with absorbent material and place contaminated material in appropriate sealed container for waste disposal.
Clean-Up	Wash spill site after containment is complete.

Section	7. Handling and Storage
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Handling	Avoid dust formation. Do not get in eyes, on skin, on clothing, or breathe dust.
Storage	Keep in a tightly closed container at -20°C or colder.

Section	8. Exposure Controls/Personal Protection
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Permissible Exposure Limits	This product does not have occupational exposure limits.
Engineering Controls	Safety shower, eye wash station and mechanical exhaust system
Eye Protection	Chemical safety goggles or appropriate eye protection

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Skin Protection	Compatible chemical-resistant gloves
Respiratory Protection	Respiratory protection is not required under normal use of this product. If respiratory protection is needed use a government approved respirator.
Hygiene	Wash thoroughly after handling

Section	9. Physical and Chemical Properties
Appearance	White to off-white lyophilized cake
Physical State	Solid
pH	7 – 8
Molecular Weight	~34 kDa
Boiling Point/Range	Not determined
Melting Point/Range	Not determined
Freezing Point	Not determined
Vapor Pressure	Not determined
Vapor Density	Not determined
Evaporation Rate	Not determined
Specific Gravity	Not determined
Solubility	Soluble in water, limit not determined

Section	10. Stability and Reactivity
Reactive Hazard	None known, based on information available
Stability	Stable under ordinary conditions of storage and use
Conditions to Avoid	Heat and extreme pH
Incompatible Materials	Strong oxidizing agents, strong acids and bases
Hazardous Decomposition	Nature of decomposition products not known
Hazardous Polymerization	None under normal processing
Hazardous Reactions	None under normal processing

Section	11. Toxicological Information			
Routes of Exposure	Ingestion, inhalation, skin and/or eye contact			
Acute Toxicity	No information available			
Chronic Toxicity	No information available			
Carcinogenicity	IARC	NTP	OSHA	ACGIH
Collagenase	Not listed	Not listed	Not listed	Not listed
Glycylglycine	Not listed	Not listed	Not listed	Not listed
Calcium Chloride	Not listed	Not listed	Not listed	Not listed
Symptoms both acute and delayed	May cause skin, lung and eye irritation. May be harmful if absorbed through the skin, ingested or inhaled.			

Section	12. ECOLOGICAL INFORMATION
Ecotoxicity	No information available
Persistence	Unlikely based on information available
Bioaccumulation	No information available
Mobility	Likely to be mobile in the environment due to solubility in water

Section	13. DISPOSAL CONSIDERATIONS
Waste Disposal	Recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options.

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State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section	14. TRANSPORT INFORMATION
DOT	US, Not regulated
TDG	Canada, Not regulated
IATA	International Air Transport Association, Not regulated
IMDG/IMO	International Maritime Dangerous Goods, Not regulated

Section	15. REGULATORY INFORMATION														
US Federal TSCA 12(b)	Not applicable														
US Federal CERCLA	Not applicable														
US Federal SARA 313	Not applicable														
US Federal 311/312 (US)	Acute health hazard														
California Prop 65	Not listed														
Canada DSL/NDSL	Not listed														
European Union EINECS	232-973-4														
International	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">NLP</td> <td style="text-align: center;">ELINCS</td> <td style="text-align: center;">ENCS</td> <td style="text-align: center;">AICS</td> <td style="text-align: center;">PICCS</td> <td style="text-align: center;">IECSC</td> <td style="text-align: center;">KECL</td> </tr> <tr> <td style="text-align: center;">Not listed</td> </tr> </table>	NLP	ELINCS	ENCS	AICS	PICCS	IECSC	KECL	Not listed						
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Not listed	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed									

Section	16. OTHER
Prepared By	VitaCyte Regulatory Affairs (info@vitacyte.com)
Creation Date	12 Apr 2018
Revision Date	12 Apr 2018
Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).
Disclaimer	The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.