



Section	1. Identification
<b>Product Name</b>	Animal-Free Thermolysin
<b>Product Code</b>	002-3000
<b>Chemical Name</b>	Purified thermolysin from <i>Bacillus thermoproteolyticus</i> 'rokko'
<b>Synonyms</b>	Thermophilic bacterial protease
<b>Intended Application</b>	Purified enzyme for the release of cells from a tissue matrix
<b>Manufacturer</b>	VitaCyte, LLC 1341 Sadlier Circle West Drive Indianapolis, IN 46239
<b>Technical Phone #</b>	317-917-3457
Section	2. Hazard(s) Identification
<b>Hazard Classification</b>	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
<b>Pictograms</b>	
<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	<p><b>H315</b> Causes skin irritation.</p> <p><b>H317</b> May cause an allergic skin reaction.</p> <p><b>H319</b> Causes serious eye irritation.</p> <p><b>H334</b> May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p> <p><b>H335</b> May cause respiratory irritation.</p>
<b>Precautionary Statements</b>	<p><b>P261</b> Avoid breathing dust/fume/gas/mist/spray.</p> <p><b>P264</b> Wash skin thoroughly after handling.</p> <p><b>P271</b> Use only outdoors or in a well-ventilated area.</p> <p><b>P272</b> Contaminated work clothing should not be allowed out of the workplace.</p> <p><b>P280</b> Wear eye protection/face protection.</p> <p><b>P280</b> Wear protective gloves.</p> <p><b>P285</b> In case of inadequate ventilation wear respiratory protection.</p> <p><b>P302 + P352</b> IF ON SKIN: Wash with plenty of soap and water.</p> <p><b>P304 + P340 + P312</b> IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p>

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Call a POISON CENTER or doctor/physician if you feel unwell.

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

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

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

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

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

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

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Section	8. Exposure Controls/Personal Protection
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
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

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**Mobility**                      Likely to be mobile in the environment due to solubility in water

<b>Section</b>	<b>13. DISPOSAL CONSIDERATIONS</b>
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<b>Waste Disposal</b>	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. 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.
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<b>Section</b>	<b>14. TRANSPORT INFORMATION</b>
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<b>DOT</b>	US, Not regulated
<b>TDG</b>	Canada, Not regulated
<b>IATA</b>	International Air Transport Association, Not regulated
<b>IMDG/IMO</b>	International Maritime Dangerous Goods, Not regulated

<b>Section</b>	<b>15. REGULATORY INFORMATION</b>
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<b>US Federal TSCA 12(b)</b>	Not applicable						
<b>US Federal CERCLA</b>	Not applicable						
<b>US Federal SARA 313</b>	Not applicable						
<b>US Federal 311/312 (US)</b>	Acute health hazard						
<b>California Prop 65</b>	Not listed						
<b>Canada DSL/NDSL</b>	Not listed						
<b>European Union EINECS</b>	232-973-4						
<b>International</b>	NLP	ELINCS	ENCS	AICS	PICCS	IECSC	KECL
	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

<b>Section</b>	<b>16. OTHER</b>
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<b>Prepared By</b>	VitaCyte Regulatory Affairs (feedback@vitacyte.com)
<b>Creation Date</b>	12 Apr 2018
<b>Revision Date</b>	2 May 2019
<b>Summary</b>	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).
<b>Disclaimer</b>	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.