

## SAFETY DATA SHEET

Recombinant Collagenase rHI

Revision 15 May 2019



Section	1. Identification
<b>Product Name</b>	Recombinant Collagenase rHI
<b>Product Code</b>	001-4010
<b>Chemical Name</b>	Purified recombinant Collagenases C1 and C2 expressed in <i>E coli</i>
<b>Synonyms</b>	Recombinant ColG, Recombinant ColH, Collagenase Blend
<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 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>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>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. Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p><b>P305 + P351 + P338</b> IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p>

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- P332 + P313** If skin irritation 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 %
Purified Recombinant Collagenase	9001-12-1	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>2</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.

<b>Section</b>	<b>8. Exposure Controls/Personal Protection</b>
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<b>Permissible Exposure Limits</b>	This product does not have occupational exposure limits.
<b>Engineering Controls</b>	Safety shower, eye wash station and mechanical exhaust system
<b>Eye Protection</b>	Chemical safety goggles or appropriate eye protection
<b>Skin Protection</b>	Compatible chemical-resistant gloves
<b>Respiratory Protection</b>	Respiratory protection is not required under normal use of this product. If respiratory protection is

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**Hygiene** needed use a government approved respirator.  
Wash thoroughly after handling.

Section	9. Physical and Chemical Properties
<b>Appearance</b>	White to off-white lyophilized cake
<b>Physical State</b>	Solid
<b>pH</b>	6 – 8
<b>Molecular Weight</b>	~115 kDa
<b>Boiling Point/Range</b>	Not determined
<b>Melting Point/Range</b>	Not determined
<b>Freezing Point</b>	Not determined
<b>Vapor Pressure</b>	Not determined
<b>Vapor Density</b>	Not determined
<b>Evaporation Rate</b>	Not determined
<b>Specific Gravity</b>	Not determined
<b>Solubility</b>	Soluble in water, limit not determined

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

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

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

Section	13. DISPOSAL CONSIDERATIONS
<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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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	232-582-9							
International	NLP	ELINCS	ENCS	AICS	PICCS	IECSC	KECL	
	Not listed	Not listed	Not listed	Not listed	Not listed	Listed	Not listed	

Section	16. OTHER
Prepared By	VitaCyte Regulatory Affairs (feedback@vitacyte.com)
Creation Date	14 Aug 2018
Revision Date	2 May 2019
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.