

**MATERIAL SAFETY DATA SHEET****SECTION 1 - Product and Company Information**

Product name: Collagenase Type 1 (C. histolyticum)  
Company: Abnova (Taiwan) Corporation  
Address: 3F, No.132, Siyuan Rd., Jhongli City, Taoyuan County, 320 Taiwan.  
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**SECTION 2 - Hazards Identification****Potential Health Effects**

**Eye:** May cause eye irritation.  
**Skin:** May cause skin irritation.  
**Ingestion:** Ingestion of large amounts may cause gastrointestinal irritation. May cause gastric disturbances and electrolytic imbalance. Ingestion of large amounts of sodium chloride may cause nausea, and vomiting, rigidity or convulsions. Continued exposure can produce coma, dehydration and internal organ congestion.  
**Inhalation:** May cause respiratory tract irritation.  
**Chronic:** No information found. None

**SECTION 3 - Composition/Information on Ingredient**

Collagenase Type1 (*C.histolyticum*) supplied as lyophile from native protein purified from *Clostridium histolyticum*.

**Buffer Composition**

CAS#	Chemical Name	Concentration	EINECS/ELINCS
N/A	N/A	N/A	N/A

**Additive Composition**

CAS#	Chemical Name	Concentration	EINECS/ELINCS
N/A	N/A	N/A	N/A

There are no ingredient presents which, within the current knowledge of the supplier and in the concentration applicable, are classified as hazardous to health or the environment and hence require in this section.

**SECTION 4 - First aid measures**

<b>Eyes:</b>	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
<b>Skin:</b>	Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.
<b>Ingestion:</b>	Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.
<b>Inhalation:</b>	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
<b>Notes to Physician:</b>	Treat symptomatically and supportively.

**SECTION 5 - Fire fighting measures**

<b>Fire Extinguisher Type:</b>	Use water spray, dry chemical, carbon dioxide, or chemical foam.
<b>Fire Fighting Procedure:</b>	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Substance is noncombustible.
<b>NFPA Rating:</b>	(estimated) Health: 2; Flammability: 0; Instability: 0

**SECTION 6 - Accidental release measures**

<b>General Information:</b>	Use proper personal protective equipment as indicated in Section 8.
<b>Spills/Leaks:</b>	Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

**SECTION 7 - Handling and storage**

<b>Handling:</b>	Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.
<b>Storage:</b>	Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

**SECTION 8 - Exposure Controls**

<b>Eyes:</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin:</b>	Wear appropriate protective gloves to prevent skin exposure.
<b>Clothing:</b>	Wear appropriate protective clothing to prevent skin exposure.
<b>Respirators:</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**SECTION 9 - Physical and chemical properties**

Appearance:	Liquid
pH:	Not available
Boiling point:	Not available
Vapor density:	Not available
Vapor pressure:	Not available
Density (g cm <sup>-3</sup> ):	Not available
Flash point:	Not available
Explosion limits:	Not available
Auto ignition temperature:	Not available

**SECTION 10 - Stability and reactivity**

<b>Stability:</b>	Stable.
<b>Conditions to avoid:</b>	Heating above room temperature, freezing, contaminating.
<b>Materials to avoid:</b>	Generally use only clean glass and plastic suitable for laboratory use for handling the antibody preparation.  Note that individual ingredients are incompatible with acids, heavy metals, metallic salts, bromine, dimethylsulfate, copper, dichloromethane, carbondisulfide and peptidases.
<b>Dangerous reactions:</b>	In the case of fire see section 5.

**SECTION 11 - Toxicological information**

<b>Epidemiology:</b>	No information found
<b>Teratogenicity:</b>	No information found
<b>Reproductive Effects:</b>	No information found
<b>Mutagenicity:</b>	No information found
<b>Neurotoxicity:</b>	No information found

**SECTION 12 - Ecological information**

Not available

**SECTION - 13 Disposal Considerations**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

**SECTION 14 - Transport information**

O.D.T.: This substance is considered non-hazardous for transport.

IATA: This substance is considered non-hazardous for air transport.

**SECTION 15 - Regulatory information**

The product does not contain a hazardous ingredient in an amount that requires identification and labeling according to EC directives.

**SECTION 16 - Other Information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Abnova shall not be held liable for any damage resulting from handling or from contact with the above product.