Safety Data Sheet

Cat. # 786-046

Aprotinin

Size: 100mg
# SECTION 1: Identification

## 1.1. Identification

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product form</td>
<td>Substance</td>
</tr>
<tr>
<td>Substance name</td>
<td>Aprotinin</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>9087-70-1</td>
</tr>
<tr>
<td>Product code</td>
<td>313A</td>
</tr>
<tr>
<td>Formula</td>
<td>C284H432N84O79S7</td>
</tr>
<tr>
<td>BIG no</td>
<td>40842</td>
</tr>
</tbody>
</table>

## 1.2. Recommended use and restrictions on use

Use of the substance/mixture: Chemical substance for research/Medicine

## 1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

## 1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

# SECTION 2: Hazard(s) identification

## 2.1. Classification of the substance or mixture

**GHS-US classification**

<table>
<thead>
<tr>
<th>Category</th>
<th>H334</th>
<th>H317</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory sensitization, Category 1</td>
<td>May cause an allergy or asthma symptoms or breathing difficulties if inhaled</td>
<td>May cause an allergic skin reaction</td>
</tr>
</tbody>
</table>

Full text of H statements: see section 16

## 2.2. GHS Label elements, including precautionary statements

**GHS-US labeling**

<table>
<thead>
<tr>
<th>Hazard pictograms (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Hazard Pictogram" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signal word (GHS-US)</th>
<th>Danger</th>
</tr>
</thead>
</table>
| Hazard statements (GHS-US) | H317 - May cause an allergic skin reaction  
H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled |
P272 - Contaminated work clothing must not be allowed out of the workplace 
P280 - Wear protective gloves/protective clothing/eye protection/face protection. 
P284 - [In case of inadequate ventilation] wear respiratory protection. 
P302+P352 - If on skin: Wash with plenty of water 
P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing 
P321 - Specific treatment (see supplemental first aid instruction on this label) 
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. 
P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor |

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05/11/2018 EN (English US) Page 1
2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
</table>

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. Remove the victim in to fresh air. Respiratory problems: consult a doctor/medical service. If experiencing respiratory symptoms: Call a poison center or a doctor.

First-aid measures after skin contact: Wash immediately with lots of water. Take victim to a doctor if irritation persists. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact: Rinse with water. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.


4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms: Caution! Substance is absorbed through the skin.

Symptoms/effects after inhalation: May cause an allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact: May cause an allergic skin reaction.

Chronic symptoms: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation. Respiratory difficulties.
4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


5.2. Specific hazards arising from the chemical

Fire hazard: DIRECT FIRE HAZARD: Not easily combustible. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD: Heating increases the fire hazard.

Explosion hazard: DIRECT EXPLOSION HAZARD: Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions: Dilute toxic gases with water spray.


SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Powdered form: no compressed air for pumping over spills.

Methods for cleaning up: Mechanically recover the product. Prevent dust cloud formation. Scoop solid spill into closing containers. Powdered: do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Hygiene measures: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a well-ventilated place. Keep cool.
Storage temperature: < 4 °C
Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents.
Storage area: Provide for a cooling system. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing, correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.
Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Gloves

Eye protection:
Face shield. In case of dust production: protective goggles. Safety glasses

Skin and body protection:
Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

Respiratory protection:
Dust production: dust mask with filter type P2. Wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid
Color: White
Odor: No data available
Odor threshold: No data available
pH: No data available
Melting point: No data available
Freezing point: Not applicable
Boiling point: No data available
Flash point: Not applicable
Relative evaporation rate (butyl acetate=1): No data available
Flammability (solid, gas): Non flammable.
Vapor pressure: No data available
Relative vapor density at 20 °C: Not applicable
Relative density: Not applicable
Molecular mass: 6511.53 g/mol
Solubility: Soluble in water, Water: soluble, Literature
Log Pow: No data available
Aprotinin
Safety Data Sheet

Auto-ignition temperature: Not applicable
Decomposition temperature: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosion limits: Not applicable
Explosive properties: No data available
Oxidizing properties: No data available

9.2. Other information
VOC content: 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral): Not classified
Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Not classified
Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitization: May cause an allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity – single exposure: Not classified
Specific target organ toxicity – repeated exposure: Not classified
Aspiration hazard: Not classified
Viscosity, kinematic: No data available
Potential Adverse human health effects and symptoms: Caution! Substance is absorbed through the skin.
Symptoms/effects after inhalation: May cause an allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact: May cause an allergic skin reaction.
Chronic symptoms: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation. Respiratory difficulties.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Aprotinin
Safety Data Sheet

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water : Mild water pollutant (surface water). No data available on ecotoxicity.

12.2. Persistence and degradability
Aprotinin (9087-70-1)
Persistence and degradability : Biodegradability in water: no data available.

12.3. Bioaccumulative potential
Aprotinin (9087-70-1)
Bioaccumulative potential : No bioaccumulation data available.

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods
Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Dissolve or mix with a combustible solvent.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport by sea
Not regulated

Air transport
Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations
Aprotinin (9087-70-1)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
CANADA
No additional information available
EU-Regulations
No additional information available
SECTION 16: Other information

Full text of H-phrases:

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<tr>
<th>H317</th>
<th>May cause an allergic skin reaction</th>
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NFPA health hazard: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard: 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity: 0 - Material that in themselves are normally stable, even under fire conditions.

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.