Safety Data Sheet

Cat. # 786-044

Proteinase K, Lyophilized

Size: 500mg
### SECTION 1: Identification

#### 1.1. Identification

- **Product form**: Substance
- **Substance name**: Proteinase K, Lyophilized
- **CAS-No.**: 39450-01-6
- **Product code**: 515P
- **Synonyms**: proteinase K / proteinase K, Glyc, PCR-Grade SL / proteinase, tritirachium album serine / tritirachium album serine / tritirachium alkaline proteinase
- **BIG no**: 37946

#### 1.2. Recommended use and restrictions on use

- **Use of the substance/mixture**: Chemical substance for research, Enzyme

#### 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

#### 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

- **Skin corrosion/irritation Category 2**: H315 Causes skin irritation
- **Serious eye damage/eye irritation Category 2**: H319 Causes serious eye irritation
- **Respiratory sensitization, Category 1**: H334 May cause an allergy or asthma symptoms or breathing difficulties if inhaled
- **Specific target organ toxicity (single exposure) Category 3**: H335 May cause respiratory irritation

Full text of H statements: see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

- **Signal word (GHS US)**: Danger
- **Hazard pictograms (GHS US)**:

  ![Hazard Pictograms]

- **Hazard statements (GHS US)**:
  - H315 - Causes skin irritation
  - H319 - Causes serious eye irritation
  - H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled
  - H335 - May cause respiratory irritation

- **Precautionary statements (GHS US)**:
  - P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
  - P264 - Wash hands, forearms and face thoroughly after handling.
  - P271 - Use only outdoors or in a well-ventilated area.
  - 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+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
  - P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing
  - P305+P351+P338 - In eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
  - P312 - Call a poison center or doctor if you feel unwell
  - P321 - Specific treatment (see supplemental first aid instruction on this label)
  - P332+P313 - If skin irritation occurs: Get medical advice/attention.
  - P337+P313 - If eye irritation persists: Get medical advice/attention.
  - P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor
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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>Name</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 the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact: Wash immediately with lots of water. Soap may be used. Take victim to a doctor if irritation persists.
First-aid measures after eye contact: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

4.2. Most important symptoms and effects (acute and delayed)
Potential Adverse human health effects and symptoms: Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.
Symptoms/effects after inhalation: AFTER INHALATION OF DUST/MIST: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
Symptoms/effects after skin contact: Tingling/irritation of the skin.
Symptoms/effects after eye contact: Irritation of the eye tissue.
Symptoms/effects after ingestion: No effects known.
Chronic symptoms: 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: Non-flammable. Most organic solids may burn if strongly heated.
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Explosion hazard: DIRECT EXPLOSION HAZARD: Most organic solids are liable to dust explosion hazard.

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. Take account of toxic/corrosive precipitation water.


SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


Emergency procedures: Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.

Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

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.

Methods for cleaning up: Stop dust cloud by humidifying. Scoop solid spill into closing containers. 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: 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 locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Storage temperature: < 0 °C

Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents.

Storage area: Keep container in a well-ventilated place. To be kept quick-frozen. 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

<table>
<thead>
<tr>
<th>Proteinase K, Lyophilized (39450-01-6)</th>
<th>ACGIH</th>
<th>ACGIH Ceiling (mg/m³)</th>
<th>0.00006 mg/m³</th>
</tr>
</thead>
</table>
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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Solid</td>
</tr>
<tr>
<td>Color</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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.
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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

<table>
<thead>
<tr>
<th>Acute toxicity (oral)</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>May cause an allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Potential Adverse human health effects and symptoms</td>
<td>Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>AFTER INHALATION OF DUST/MIST: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Tingling/irritation of the skin.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Irritation of the eye tissue.</td>
</tr>
<tr>
<td>Symptoms/effects after ingestion</td>
<td>No effects known.</td>
</tr>
<tr>
<td>Chronic symptoms</td>
<td>Respiratory difficulties.</td>
</tr>
</tbody>
</table>

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. |
| Ecology - water | Mild water pollutant (surface water). No data available on ecotoxicity. |

12.2. Persistence and degradability

| Proteinase K, Lyophilized (39450-01-6) | Biodegradability in water: no data available. |

12.3. Bioaccumulative potential

| Proteinase K, Lyophilized (39450-01-6) | No bioaccumulative data available. |

12.4. Mobility in soil

| Proteinase K, Lyophilized (39450-01-6) | No (test)data on mobility of the substance 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

Air transport

SECTION 15: Regulatory information

15.1. US Federal regulations

Proteinase K, Lyophilized (39450-01-6)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA
No additional information available

EU-Rules
No additional information available

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 05/11/2017

Full text of H-phrases:

| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H334 | May cause an allergy or asthma symptoms or breathing difficulties if inhaled |
| H335 | May cause respiratory irritation |
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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.