1. Identification

Product identifier: Proteinase K

Other means of identification: Protease (Single Vial), Protease (30 Pack), Protease (6 Pack)

SUB assembly: RFIT-SUB-0317 / 0318 / 0389

Recommended use: In vitro diagnostic medical device

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Company name: BioFire Defense, LLC
Address: 79 W 4500 S Suite 14 - Murray, UT 84107 (US)
Telephone: For information: 801-262-3592
E-mail: support@biofiredefense.com
Emergency telephone number: 1-800-424-9300 (Chemtrec) or call your local Poison Control Center

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards: Respiratory Sensitizer Category 1
Skin Irritant Category 2
Eye Irritant Category 2

Environmental hazards: Not classified.

OSHA defined hazards: Not classified.

Label elements

Signal word: Danger

Hazard statements: Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements

Prevention: Wash face, hands, and any exposed skin thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/fume/gas/mist/vapors/spray.
In case of inadequate ventilation wear respiratory protection.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists. Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
If INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Hazard(s) not otherwise classified (HNOC): None Known.

Supplemental information: None.
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixtures</th>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Proteinase K, Tritirachium album serine</td>
<td>39450-01-6</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td></td>
<td></td>
<td>97.5</td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

**Inhalation**
If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

**Skin contact**
Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact**
Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**
Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed**
Difficulty in breathing.

**Indication of immediate medical attention and special treatment needed**
Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

**Suitable extinguishing media**
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media**
Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical**
During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**
Move containers from fire area if you can do so without risk.

**Specific methods**
Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**
No unusual fire or explosion hazards noted.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Sweep up or vacuum up spillage and collect in suitable container for disposal. Following product recovery, flush area with water.

Small Spills: Clean surface thoroughly to remove residual contamination.

**Environmental precautions**
Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

**Precautions for safe handling**
Avoid breathing mist or vapor. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**
Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).
8. Exposure controls/personal protection

Occupational exposure limits  This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.

Biological limit values  No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls  Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate.

Individual protection measures, such as personal protective equipment

Eye/face protection  Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection  Wear protective gloves. Use protective gloves made of: Nitrile.

Other  Wear suitable protective clothing.

Respiratory protection  No personal respiratory protective equipment normally required.

Thermal hazards  Not available.

General hygiene considerations  Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance  Pellets.

Physical state  Solid.

Form  Not available.

Color  Off-white

Odor  Slight.

Odor threshold  Not available.

pH  Not available.

Melting point/freezing point  Not available.

Initial boiling point and boiling range  Not available.

Flash point  Not available.

Evaporation rate  Not available.

Flammability (solid, gas)  Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)  Not available.

Flammability limit - upper (%)  Not available.

Explosive limit - lower (%)  Not available.

Explosive limit - upper (%)  Not available.

Vapor pressure  Not available.

Vapor density  Not available.

Relative density  Not available.

Solubility(ies)

Solubility (water)  Not available.

Partition coefficient (n-octanol/water)  Not available.

Auto-ignition temperature  Not available.

Decomposition temperature  Not available.

Viscosity  Not available.

Other information

Explosive properties  Not explosive.

Oxidizing properties  Not oxidizing.
10. Stability and reactivity

Reactivity  The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability  Material is stable under normal conditions.
Possibility of hazardous reactions  No dangerous reaction known under conditions of normal use.
Conditions to avoid  Contact with incompatible materials.
Incompatible materials  Strong oxidizing agents.
Hazardous decomposition products  No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation  May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact  No adverse effects due to skin contact are expected.
Eye contact  Direct contact with eyes may cause temporary irritation.
Ingestion  Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Difficulty in breathing.

Information on toxicological effects

Acute toxicity  Not available.
Skin corrosion/irritation  Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation  Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization

Respiratory sensitization  May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization  This product is not expected to cause skin sensitization.
Germ cell mutagenicity  No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity  This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity
Not listed.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not regulated.
US. National Toxicology Program (NTP) Report on Carcinogens
Not listed.

Reproductive toxicity  This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure  Not classified.
Specific target organ toxicity - repeated exposure  Not classified.
Aspiration hazard  Not an aspiration hazard.

12. Ecological information

Ecotoxicity  The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability  No data is available on the degradability of this product.
Bioaccumulative potential  No data available.
Mobility in soil  No data available.
Other adverse effects  No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
13. Disposal considerations

**Disposal instructions**
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**
Dispose in accordance with all applicable regulations.

**Hazardous waste code**
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

**DOT**
Not regulated as dangerous goods.

**IATA**
Not regulated as dangerous goods.

**IMDG**
Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not established.

15. Regulatory information

**US federal regulations**
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**
Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**
Not listed.

**SARA 304 Emergency release notification**
Not regulated.

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

- **Hazard categories**
  - Immediate Hazard - Yes
  - Delayed Hazard - No
  - Fire Hazard - No
  - Pressure Hazard - No
  - Reactivity Hazard - No

- **SARA 302 Extremely hazardous substance**
  Not listed.

- **SARA 311/312 Hazardous chemical**
  No

- **SARA 313 (TRI reporting)**
  Not regulated.

**Other federal regulations**

- **Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**
  Not regulated.

- **Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**
  Not regulated.

- **Safe Drinking Water Act (SDWA)**
  Not regulated.
**US state regulations**
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**International Inventories**

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
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<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
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<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. **Other information, including date of preparation or last revision**

- **Issue date**: February 2017
- **Version #**: 03
- **Disclaimer**

BioFire Defense cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.