

Section 1: Identification of the substance/mixture and of the company

1.1 Product Identifier

Product form: Liquid
 Trade name: Protease (*B. licheniformis*) Concentrate
 Synonyms: Subtilisin A
 Catalog Number: TDF82 (20ml) / TDF83 (100ml)
 Appearance: Product is provided in a plastic container

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Industrial. For professional use only
 Uses advised against: No additional information available

1.3 Details of the supplier of the Material Safety Data Sheet

Company Name: ANKOM Technology	E-mail: service@ankom.com
Address: 2052 O'Neil Rd., Macedon, NY USA 14502	Emergency Phone: (315) 986-3857 8am-5pm EST

Section 2: Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]: Eye Damage 1: H318 Resp. Sens. 1: H334
 Classification according to Directive 67/548/EEC or 1999/45/EC: Not classified
 Adverse physicochemical, human health and environmental effects: No additional information available
 For full text of H- and R-phrases, see section 16.

2.2 Label elements according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):
 GHS05 GHS08
 Signal word (CLP): Danger
 Hazardous ingredients: Serine Proteinase. *Bacillus licheniformis*
 Hazard statements (CLP): H318 – Causes serious eye damage.
 H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Precautionary statements (CLP): P261 – Avoid breathing spray.
 P280 – Wear protective clothing.
 P285 – In case of inadequate ventilation, wear respiratory protection.
 P304+P341 – If INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
 P305+P351+P338 – If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
 P310 – Immediately call a POISON CENTER or doctor/physician.
 P342+P311 – If experiencing respiratory symptoms, call a POISON CENTER or doctor/physician.
 P501A – Dispose of this material and its container at a hazardous or special waste collection point.

2.3 Other hazards

No additional information available

Section 3: Composition / Information on Ingredients (for full text of R, H, and EUH-phrases see section 16)

3.1 Substances

Not applicable

3.2 Mixture

Name	Product Identifier	%	Classification
Serine Proteinase <i>Bacillus licheniformis</i>	CAS #: 79986-26-8 EC #: 279-361-3	5-10	Directive 67/548/EEC: Not classified Regulation (EC) No. 1272/2008 [CLP]: Skin Irrit. 2, H315, Eye Dam. 1, H318 Resp. Sens. 1, H334, STOT SE 3, H335

For full text of R-, H-, and EUH-phrases, see section 16.

Section 4: First Aid Measures	
4.1 Descriptions of first aid measures	
First aid measures general:	Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
First aid measures after Inhalation:	Assure fresh air breathing. Allow the victim to rest. Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
First aid measures after skin Contact:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.
First aid measures after eye Contact:	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
First aid measures after ingestion:	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.
4.2 Most important symptoms and effects, both acute and delayed	
Symptoms/injuries:	Causes severe skin burns and eye damage. Suspected of damaging fertility. May damage the unborn child.
4.3 Indication of any immediate medical attention and special treatment needed	
No additional information available	
Section 5: Fire Fighting Measures	
5.1 Extinguishing media	
Suitable extinguishing Media:	Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing Media:	Do not use a heavy water stream.
5.2 Special hazards arising from the substance or mixture	
Reactivity:	Thermal decomposition generates: Corrosive vapors.
5.3 Advice for firefighters	
Firefighting instructions:	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid fire-fighting water entering the environment.
Protection during firefighting:	Do not enter fire area without proper protective equipment including respiratory protection.
Section 6: Accidental Release Measures	
6.1 Personal precautions, protective equipment and emergency procedures	
6.1.1 For non-emergency personnel	
Emergency procedures:	Evacuate unnecessary personnel.
6.1.2 For emergency responders	
Protective equipment:	Equip cleanup crew with proper protection.
Emergency procedures:	Ventilate area.
6.2 Environmental precautions	
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.	
6.3 Methods and material for containment and cleaning up	
Methods for cleaning up:	Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
6.4 Reference to other sections	
See Heading 8: Exposure controls/personal protection.	

Section 7: Handling and Storage

7.1 Precautions for safe handling

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work. Provide good ventilation in process areas to prevent formation of vapor. Do not breathe vapors. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures: After handling, wash hands and other exposed areas thoroughly with mild soap and water before eating, drinking, or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures: Comply with applicable regulations.

Storage conditions: Keep only in the original container in a cool, well ventilated place away from direct sunlight. Keep container closed when not in use.

Incompatible materials: Sources of ignition. Direct sunlight.

7.3 Specific end use(s)

No additional information available

Section 8: Exposure Controls / Personal Protection

8.1 Control parameters

No additional information available

8.2 Exposure controls

Personal protective equipment: Avoid all unnecessary exposure.

Hand protection: Wear protective gloves.

Eye protection: Wear chemical goggles or face shield.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: Wear appropriate mask.

Other information: Do NOT eat, drink, or smoke when handling this material.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid	Flammability (solid, gas):	No data available
Color:	Colorless	Vapor Pressure:	No data available
Odor:	Characteristic	Relative vapor density at 20°C:	No data available
Odor Threshold:	No data available	Relative Density:	No data available
pH:	No data available	Solubility:	No data available
Relative evaporation rate (butylacetate=1):	No data available	Log Pow:	No data available
Melting point:	No data available	Log Kow:	No data available
Freezing point:	No data available	Viscosity, kinematic:	No data available
Boiling point:	No data available	Viscosity, dynamic:	No data available
Flash point:	No data available	Explosive properties:	No data available
Self-ignition temperature:	No data available	Oxidizing properties:	No data available
Decomposition temperature:	No data available	Explosive limits:	No data available

9.2 Other information

No additional information available

Section 10: Stability and Reactivity

10.1 Reactivity

Thermal decomposition generates: Corrosive vapors.

10.2 Chemical stability

Not established.

10.3 Possibility of hazardous reactions

Not established.

10.4 Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5 Incompatible materials

Strong bases.

10.6 Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates: Corrosive vapors.

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity:	Not classified.
Skin corrosion/irritation:	Not classified. Causes severe skin burns and eye damage.
Serious eye damage/irritation:	Causes serious eye damage. Causes severe skin burns and eye damage.
Respiratory or skin sensitization:	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Based on available data, the classification criteria are not met.
Germ cell mutagenicity:	Not classified. Based on available data, the classification criteria are not met.
Carcinogenicity:	Not classified. Based on available data, the classification criteria are not met.
Reproductive toxicity:	Not classified. Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (single exposure)	Not classified. Based on available data, the classification criteria are not met.
Specific target organ toxicity (repeated exposure)	Not classified. Based on available data, the classification criteria are not met.
Aspiration hazard:	Not classified. Based on available data, the classification criteria are not met.
Potential adverse human health effects and symptoms:	Based on available data, the classification criteria are not met.

Section 12: Ecological Information

12.1 Toxicity

No additional information available

12.2 Persistence and degradability

TDF82 / TDF83: Not established

12.3 Bioaccumulative potential

TDF82 / TDF83: Not established

12.4 Mobility in soil

No additional information available

12.5 Results of PBT and vPvB assessment	
No additional information available	
12.6 Other adverse effects	
Other information:	Avoid release to the environment
Section 13: Disposal Considerations	
13.1 Waste treatment methods	
Waste disposal recommendations:	Dispose in a safe manner in accordance with local/national regulations. Dispose of this material and its container at a hazardous or special waste collection point
Ecology – waste materials:	Avoid release to the environment.
Section 14: Transport Information (in accordance with ADR / RID / ADNR / IMDG / ICAO / IATA)	
14.1 UN number	
No dangerous goods with respect to transport regulations	
14.2 UN proper shipping name	
Not applicable	
14.3 Transportation hazard class(es)	
Not applicable	
14.4 Packing group	
Not applicable	
14.5 Environmental hazards	
Other information:	No supplementary information available.
14.6 Special precautions for user	
14.6.1 Overland transport	
No additional information available	
14.6.2 Transport by sea	
No additional information available	
14.6.3 Air transport	
No additional information available	
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
Not applicable	
Section 15: Regulatory Information	
15.1 Safety, health, and environmental regulations/legislation specific to the substance or mixture	
EU-Regulations:	No REACH Annex XVII restrictions. Contains no REACH candidate substance.
National regulations:	No additional information available.
15.2 Chemical safety assessment	
Chemical safety assessments for substances in this mixture were not carried out.	
Section 16: Other Information	
Indication of changes:	
Revision:	See document footer for version information.
Data sources:	REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling, and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006.
Other information:	None.

16.1 Full text of R, H, and EUH-phrases

Eye Damage 1:	Serious eye damage/eye irritation Category 1
Resp. Sens. 1:	Respiratory sensitization Category 1
Skin Irritation 2:	Skin corrosion/irritation Category 2
STOT SE 3:	Specific Target Organ Toxicity (Single Exposure) Category 3, Respiratory tract irritation
H315:	Causes skin irritation
H318:	Causes serious eye damage
H334:	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335:	May cause respiratory irritation

SDS EU (REACH Annex II)

Information in this document 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.