

SAFETY DATA SHEET

According to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Use restricted under TSCA to research and development or as analytical reagent

SECTION 1. Product and Company Identification

Product name	Proteinase K	Catalog number	OPGG00002
Supplier Information	Aviva Systems Biology Corp. 10211 Pacific Mesa Blvd, Ste 401 San Diego, CA 92121		
Emergency Contact Information	858-552-6979 (Tel) 911 (Fire, Medical)		

SECTION 2. Composition

From yeast cells with cloned gene encoding genetically engineered *Serratia marcescens* endonuclease

CAS No.	39450-01-6	E.C.	3.4.21.64
Synonyms	Peptidase K, Endoproteinase K, Endopeptidase K		

SECTION 3. Hazard(s) Identification

GHS-Labeling	Not a dangerous substance according to GHS.
Other hazards	N/A

SECTION 4. First Aid Measures

Inhalation	Irritating to respiratory system. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact	Irritating to skin. Take off immediately all contaminated clothing. Rinse skin with soap and water/shower.
Eye contact	Irritating to eyes. Rinse out with plenty of water. Remove contact lenses, if present.
Ingestion	No known significant effects or critical hazards. Rinse mouth with water and drink two glasses of water. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed:

CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY REACTION.

Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Indication of any immediate medical attention and special treatment needed:

None.

SECTION 5. Fire-fighting Measures

Extinguishing media	Use an extinguishing agent suitable for the surrounding fire. Water spray, Foam, Carbon dioxide (CO ₂), Dry powder
Special hazards arising from the substance or mixture	No specific fire or explosion hazard. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Advice for firefighters	Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Further information	Decomposition products may include the following materials: nitrogen oxides. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. Remove persons to safety. Wear breathing apparatus if exposed to vapors/dust/aerosols. Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, and consult an expert.
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Retain contaminated washing water and dispose of it. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods and material for containment and cleaning up	Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

SECTION 7: Handling and Storage

Precautions for safe handling	<p>Observe label precautions.</p> <p>Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.</p> <p>Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.</p> <p>Store in accordance with local regulations. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use.</p>
Advice on general occupational hygiene	<p>Wash hands after use.</p> <p>Do not eat, drink and smoke in work areas.</p> <p>Remove contaminated clothing and protective equipment before entering eating areas.</p> <p>Never keep food or drink in the vicinity of chemicals.</p> <p>Never place chemicals in containers that are normally used for food or drink.</p> <p>Keep away from food, drink and animal feeding stuffs.</p>

SECTION 8. Exposure Controls/Personal Protection

Control parameters	<p>Consult local authorities for acceptable exposure limits.</p>
Exposure controls	<p>General ventilation.</p> <p>Personal protective equipment: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.</p> <p>Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.</p> <p>Skin protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.</p> <p>Glove material: butyl-rubber, Glove thickness: 0.7 mm</p> <p>Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.</p>

SECTION 9: Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	Solid powder	Color	White / colorless
Odor	Odorless	pH (value)	N/A
Melting point	N/A	Boiling point	N/A
Flash point	N/A	Evaporation rate	N/A
Flammability	N/A	Density	N/A
Explosion limit	N/A	Vapor pressure	N/A
Explosive properties	Not classified as explosive	Oxidizing properties	None
Water solubility	Soluble	Auto-ignition temperature	N/A
Decomposition temperature	N/A	Molecular Weight	29.3 kD
Molecular formula	N/A	Melting/freezing point:	N/A
Relative density	N/A	Vapor density:	N/A
Odor threshold	N/A	Evaporation rate	N/A

SECTION 10: Stability and Reactivity

Reactivity	Under normal conditions of storage and use, hazardous reactions will not occur.
Chemical stability	The product is chemically stable under standard ambient conditions.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	No specific data.
Incompatible materials	No information available
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11. Toxicological Information

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This mixture does not meet the criteria for classification.

Likely route of exposure	Eye contact, Skin contact
Acute toxicity	The classification criteria for these hazard classes are not met.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Specific target organ toxicity	The classification criteria for this hazard class are not met. Shall not be classified as a specific target organ toxicant

SECTION 12: Ecological Information

Toxicity	Not hazardous to the aquatic environment.	Persistence and degradability	N/A
Bio-accumulative potential	N/A	Mobility in soil	N/A
Results of PBT and vPvB assessment	N/A	Other adverse effects	No known significant effects or critical hazards

SECTION 13: Disposal Considerations

Waste treatment methods

Disposal should be in accordance with applicable regional, national and local laws and regulations. The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport Information

UN number	not subject to transport regulations
UN proper shipping name	N/A
Transport hazard class(es)	None
Packing group	N/A
Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations
Special precautions for user	There is no additional information.
Transport in bulk according to Annex II of MARPOL and the IBC Code	N/A

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT)

Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

SECTION 15: Regulatory Information

HCS Classification	Irritating material. Sensitizing material
U.S. Federal Regulations	<p>TSCA 8(b) inventory: This product is being sent to you as a Research and Development product as defined by the Toxic Substances Act (TSCA) of 1976. Due to TSCA's R&D exemption, this product is not listed on the U.S. EPA's Toxic Substances Control Act (TSCA's) inventory. As a TSCA exempt R&D substance, this product must be used by or directly under the supervision of a technically qualified individual(s) as defined by TSCA. This product may not be used for commercial purposes or in formulations used for commercial purposes.</p> <p>SARA 302/304/311/312 extremely hazardous substances: No products were found.</p> <p>SARA 302/304 emergency planning and notification: No products were found.</p>

Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other Information, including date of preparation or last revision

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.