



MATERIAL SAFETY DATA SHEET

Proteinase K Ex. Tritirachium album

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Proteinase K Ex. Tritirachium album

Product Number: PROK-70-4825

Synonym(s): Proteinase K

Product Use: Enzyme reagent for laboratory use.

Description: Lyophilized powder containing enzyme (protein) and buffering salts.

Corporate Headquarters

Genzyme Corporation

500 Kendall Street
Cambridge, MA 02142
USA

Phone: 617-252-7500

Manufacturer/Distributor

Genzyme Diagnostics

50 Gibson Drive
Kings Hill, West Malling
Kent, ME19 4AF

UK

Phone: 44 (0) 1732 220022

Emergency Telephone Numbers

Genzyme (U.S.): 617-562-4555

CHEMTREC (U.S.): 800-424-9300

CHEMTREC (Outside U.S.): 703-527-3887

2. HAZARDS IDENTIFICATION

Precautionary Statements:

CAUTION! The chemical, physical and toxicological properties of this preparation have not been thoroughly characterized. Avoid contact with eyes and skin. Do not ingest or inhale. Preparation appearance: off-white powder.

Routes of Exposure:

Occupational exposure routes may include eye contact, skin contact and inhalation.

Potential Health Effects:

Inhalation	No data available. Although there is no evidence that the enzyme(s) in this preparation induces specific respiratory hypersensitivity, all proteins are potential respiratory allergens and may result in respiratory sensitization in certain individuals after repeated and/or prolonged inhalation exposure, producing mild to severe symptoms similar to pollen allergy or asthma, including mucous membrane or eye irritation, itching of the skin or eyes, sneezing, nasal or sinus congestion, coughing, and tightness in the chest. These symptoms may develop as late as 12 hours after exposure.
Eye	No data available. Eye exposure may cause irritation, redness and itching.
Skin	No data available. Skin contact may cause irritation, dryness and redness.
Ingestion	No data available.
Chronic Effects	No data available. Repeated inhalation may result in respiratory sensitization.
Target Organs	Unknown.

Regulatory Status:

This preparation is classified as hazardous under U.S. OSHA 29 CFR 1910.1200; E.C. Directive 1999/45/EC; Canadian R.S. 1985, c. H-3; U.K. CHIP 2002 No. 1689; and/or U.N. GHS ST/SG/AC 10/30. Refer to Sec. 15, Regulatory Information, for details regarding hazard classification.

None of the components present in this preparation at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Potential Environmental Effects:

No data available.



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3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS #	EC #	% (wt/wt)
Proteinase K	39450-01-6	254-457-8	90 - 95
EC R-Phrases: None	EC Hazard Class: None		
Sodium acetate trihydrate	6131-90-4	Not Assigned	5 - 7
EC R-Phrases: None	EC Hazard Class: None		
Calcium acetate	62-54-4	200-540-9	1 - 5
EC R-Phrases: None	EC Hazard Class: None		

NOTE - Proteinase K - Enzyme source: Tritirachium album, Enzyme Commission number: 3.4.21.64

4. FIRST AID MEASURES

Inhalation:

If inhaled, move from exposure area to fresh air. Seek medical attention if breathing becomes difficult or if cough or other symptoms develop.

Eye Contact:

Immediately flush eyes with plenty of tepid water for 15 minutes while separating eyelids with fingers. Remove contact lenses if worn. Obtain medical attention if needed or if symptoms, such as redness or irritation persist.

Skin Contact:

In case of contact, flush skin with cool water and remove contaminated clothing. Obtain medical attention if needed or if irritation or other symptoms develop.

Ingestion:

In case of ingestion, contact a poison control center or physician for instructions.

5. FIRE FIGHTING MEASURES

Flammable Properties:

Material may burn when exposed to sufficient heat.

Suitable Extinguishing Media:

Use extinguishing media suitable for surrounding fire, such as carbon dioxide, chemical foam, dry chemical or water spray.

Unsuitable Extinguishing Media:

Unknown.

Specific Hazards Arising from the Chemical:

Toxic gases may be generated by combustion, including carbon monoxide (CO) and carbon dioxide (CO₂).

Standard Protective Equipment and Precautions for Firefighters:

Firefighters should wear NIOSH-approved or equivalent Self-Contained Breathing Apparatus and full protective gear.



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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Avoid physical contact with material and avoid generating or inhaling dust. Ensure adequate ventilation. Wear Personal Protective Equipment (PPE) as indicated in Section 8. Wash hands thoroughly after handling.

Environmental Precautions:

No information available.

Methods and Materials for Containment and Clean-Up:

Do not dry sweep powder. Use HEPA-filtered vacuum, if available, otherwise wet mop to clean up a powder spill. Decontaminate the spill site following standard procedures. Dispose of materials in accordance with all applicable federal, state, local and provincial environmental regulations, per Section 13.

7. HANDLING AND STORAGE

Handling:

Follow good laboratory hygiene practices. See Section 8, Engineering Controls. Minimize contact and contamination of personal clothing and skin. Wash hands thoroughly after handling.

Storage:

Store desiccated at -20°C (-4°F). Do not store with incompatible substances; see Section 10.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:

There are no ACGIH, NIOSH, OSHA or country-specific occupational exposure limits currently established for components present in this preparation at concentrations equal to or greater than 1% (0.1% if carcinogen).

Engineering Controls:

Use in well ventilated areas. If handling large quantities or there is a potential for dust or aerosol generation, use local exhaust ventilation. Facilities storing or using this material should be equipped with an eyewash fountain and a safety shower.

Personal Protective Equipment (PPE):

Respiratory	A respirator is not required under normal conditions of use.
Eye/Face	Wear appropriate protective chemical safety glasses.
Skin	Wear lab coat or other protective garments. Remove contaminated clothing promptly.
Gloves	Wear chemical resistant protective gloves.
General	Follow company-specific safety procedures.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Off-white powder	pH:	Not applicable
Odor:	Not available	Solubility:	Water-soluble
Boiling Point:	Not applicable	Evaporation Rate:	Not applicable
Melting Point:	Not available	Density:	Not available
Freezing Point:	Not applicable	Vapor Pressure:	Not available
		Partition Coefficient (n-octanol/water):	Not available



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Flammability/Explosivity Limits in Air, Lower: Not applicable

Flammability/Explosivity Limits in Air, Upper: Not applicable

Auto-Ignition Temperature: Not available

Flash Point: Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability:

Stable under ordinary conditions of use and storage. See Section 7.

Conditions to Avoid:

Unknown.

Incompatible Materials:

Unknown.

Hazardous Decomposition Products:

Thermal decomposition may lead to release of irritating gases and vapors.

Possibility of Hazardous Reactions:

Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Effects:

No data available.

Local Effects:

No data available.

Chronic Effects:

No data available.

Carcinogenicity:

No data available.

Mutagenicity:

No data available.

Teratogenicity:

No data available.

Reproductive Effects:

No data available.

Sensitization:

No data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

No data available.

Persistence and Degradability:

No data available.



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Bioaccumulative Potential:

No data available.

Mobility in Environmental Media:

No data available.

13. DISPOSAL CONSIDERATIONS

Methods of Disposal:

Dispose of unused product, spilled material and waste in accordance with all applicable federal, state, local and provincial environmental and hazardous waste regulations.

14. TRANSPORT INFORMATION

Basic Shipping Description:

Not classified as dangerous goods. Not regulated per IATA and DOT regulations.

15. REGULATORY INFORMATION

US Federal Regulations:**Inventory - United States - Section 8(b) Inventory (TSCA)**

Calcium acetate	62-54-4	Present
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International Regulations:**Canada - WHMIS - Classifications of Substances**

Calcium acetate	62-54-4	Uncontrolled product according to WHMIS classification criteria
Sodium acetate trihydrate	6131-90-4	Uncontrolled product according to WHMIS classification criteria

Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

Calcium acetate	62-54-4	ID Number 1943, hazard class 1 - low hazard to waters
Sodium acetate trihydrate	6131-90-4	ID Number 367, hazard class 1 - low hazard to waters

Inventory - Australia - Inventory of Chemical Substances (AICS)

Calcium acetate	62-54-4	Present
Sodium acetate trihydrate	6131-90-4	Present

Inventory - Canada - Domestic Substances List (DSL)

Calcium acetate	62-54-4	Present
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Inventory - China

Calcium acetate	62-54-4	Present
Proteinase K	39450-01-6	Present
Sodium acetate trihydrate	6131-90-4	Present

Inventory - European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

Calcium acetate	62-54-4	200-540-9
Proteinase K	39450-01-6	254-457-8

Inventory - Japan Existing and New Chemical Substances (ENCS)

Calcium acetate	62-54-4	2-692
Sodium acetate trihydrate	6131-90-4	2-692

Inventory - Korea - Existing and Evaluated Chemical Substances

Calcium acetate	62-54-4	KE-04463
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Canadian Hazardous Products:

WHMIS Status	Non-controlled
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European Communities Dangerous Substances/Preparations:

EC Hazard Class	None
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Risk Phrases None

Safety Phrases None

16. OTHER INFORMATION

Further Information:

This MSDS has been prepared in accordance with the ANSI Z400.1 format. Every effort has been made to adhere to the hazard criteria and content requirements of the U.S. OSHA Hazard Communication Standard, Canadian Controlled Products Regulation (CPR), UK Chemical Hazard Information and Packaging Regulations, European Communities REACH Regulation, and UN Globally Harmonized System of Classification and Labelling of Chemicals.

MSDS Origination Date: June 28, 2005

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