



MATERIAL SAFETY DATA SHEET

Glycerol Kinase Ex. Cellulomonas sp

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Glycerol Kinase Ex. Cellulomonas sp

Product Number: GLKI-70-6495

Synonym(s): Glycerol kinase

Product Use: Enzyme reagent for laboratory use.

Description: Lyophilized powder containing enzyme (protein), stabilizer and bovine serum albumin (BSA).

Corporate Headquarters

Genzyme Corporation

500 Kendall Street
Cambridge, MA 02142
USA

Phone: 617-252-7500

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. The bovine serum albumin (BSA) in this product is of US origin and meets the current standards for reduction of TSE (Transmissible Spongiform Encephalopathy) risk. Avoid contact with eyes and skin. Do not ingest or inhale. Preparation appearance: 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.



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Potential Environmental Effects:

No data available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS #	EC #	% (wt/wt)
Glycerol kinase EC R-Phrases: None	9030-66-4 EC Hazard Class: None	232-862-0	60 - 70
Bovine serum albumin, fraction V EC R-Phrases: None	9048-46-8 EC Hazard Class: None	232-936-2	1 - 35
Trade Secret Ingredient EC R-Phrases: None	Trade Secret EC Hazard Class: None	Trade Secret	1 - 35

NOTE - Glycerol kinase - Enzyme source: Cellulomonas sp., Enzyme Commission number: 2.7.1.30

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:	White powder	pH:	Not applicable
Odor:	Odorless	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)**

Bovine serum albumin, fraction V	9048-46-8	XU
Glycerol kinase	9030-66-4	XU
Trade Secret Ingredient	Trade Secret	Present

International Regulations:**Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes**

Trade Secret Ingredient Trade Secret ID Number 5223, hazard class 1 - low hazard to waters

Inventory - Australia - Inventory of Chemical Substances (AICS)

Bovine serum albumin, fraction V	9048-46-8	Present
Glycerol kinase	9030-66-4	Present
Trade Secret Ingredient	Trade Secret	Present

Inventory - Canada - Domestic Substances List (DSL)

Bovine serum albumin, fraction V	9048-46-8	Present
Trade Secret Ingredient	Trade Secret	Present

Inventory - Canada - Organisms on the Domestic Substances List (DSL)

Glycerol kinase	9030-66-4	IUB #2.7.1.30
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Inventory - China

Bovine serum albumin, fraction V	9048-46-8	Present
Glycerol kinase	9030-66-4	Present
Trade Secret Ingredient	Trade Secret	Present

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

Bovine serum albumin, fraction V	9048-46-8	232-936-2
Glycerol kinase	9030-66-4	232-862-0
Trade Secret Ingredient	Trade Secret	Trade Secret

Inventory - Japan Existing and New Chemical Substances (ENCS)

Trade Secret Ingredient	Trade Secret	Present
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Inventory - Korea - Existing and Evaluated Chemical Substances

Bovine serum albumin, fraction V	9048-46-8	KE-05-0011
Glycerol kinase	9030-66-4	KE-21797
Trade Secret Ingredient	Trade Secret	Present

Canadian Hazardous Products:

WHMIS Status Non-controlled



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European Communities Dangerous Substances/Preparations:

EC Hazard Class None

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: April 05, 2005

Version #: 2

Revision Date: November 05, 2008

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