

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

Perihalan Produk:

**Proteinase K, Ready-to-Use solution**

Product Description:

**Proteinase K, Ready-to-Use solution**

Cat No. :

J63710

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

Recommended Use

Laboratory chemicals.

Uses advised against

No Information available

**Company**

 Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd  
 Hap Seng Business Park, Lot 01-03, 01-04 Aras 1 Unity Square,  
 No 12, Persiaran Perusahaan, Seksyen 23, 40300 Shah Alam,  
 Selangor Darul Ehsan, Malaysia.  
 Main line: +60 3-5525 7888

**Supplier**

E-mail address

Enquiry.my@thermofisher.com

Emergency Telephone Number

 Tel: +03-5525 7888  
 CHEMTREC Malaysia 1-800-815-308 (Malay)  
 CHEMTREC Malaysia (Kuala Lumpur) +(60)-327884561 (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

Respiratory Sensitization	Category 1 (H334)
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**Label Elements**


Signal Word

Danger

**Hazard Statements**

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

**Precautionary Statements**

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## Prevention

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P284 - In case of inadequate ventilation wear respiratory protection

## Response

P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing

P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor

## Storage

P403 - Store in a well-ventilated place

## Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

## Other Hazards

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Glycerin	56-81-5	50
Water	7732-18-5	47.82
Proteinase, tritirachium album serine	39450-01-6	2
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride	1185-53-1	0.16
Calcium acetate	62-54-4	0.02

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

If symptoms persist, call a physician.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

#### Ingestion

Clean mouth with water and drink afterwards plenty of water.

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

#### Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

### Most important symptoms and effects, both acute and delayed

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

### Indication of any immediate medical attention and special treatment needed

#### Notes to Physician

Treat symptomatically.

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## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

#### **Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

### Special hazards arising from the substance or mixture

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

### **Hazardous Combustion Products**

Nitrogen oxides (NOx), Sulfur oxides, Hydrogen chloride, Calcium oxides.

### Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Use personal protective equipment as required.

### Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

### Methods and Material for Containment and Cleaning Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

### Conditions for Safe Storage, Including any Incompatibilities

Store in freezer.

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	Malaysia	ACGIH TLV	OSHA PEL
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Glycerin			(Vacated) TWA: 10 mg/m <sup>3</sup> (Vacated) TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
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Component	European Union	The United Kingdom	Germany
Glycerin		TWA: 10 mg/m <sup>3</sup> 8 hr (mist only)	TWA: 200 mg/m <sup>3</sup> (8 Stunden). AGW - exposure factor 2 TWA: 200 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 400 mg/m <sup>3</sup>

## Exposure Controls

### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### Eye Protection

Wear safety glasses with side shields (or goggles)

#### Hand Protection

Protective gloves

#### Skin and body protection

Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

#### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

#### Recommended Filter type:

Particulates filter conforming to EN 143

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

### Environmental exposure controls

No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### Appearance

Colorless

#### Physical State

Liquid

#### Odor

No information available

#### Odor Threshold

No data available

#### pH

8

#### Melting Point/Range

No data available

#### Softening Point

No data available

#### Boiling Point/Range

No information available

#### Flash Point

No information available

Method - No information available

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Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	No data available	
Bulk Density	Not applicable	Liquid
Water Solubility	Miscible	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
Glycerin	-1.75	
1,3-Propanediol,	-3.6	
2-amino-2-(hydroxymethyl)-,		
hydrochloride		
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

Hazardous Polymerization	No information available.
Hazardous Reactions	None under normal processing.

### Conditions to Avoid

None known.

### Incompatible Materials

None known.

### Hazardous Decomposition Products

Nitrogen oxides (NOx). Sulfur oxides. Hydrogen chloride. Calcium oxides.

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## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Product Information

##### (a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

#### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerin	12600 mg/kg ( Rat )	> 10 g/kg ( Rabbit )	> 2.75 mg/L/4h ( Rat )(mist)
Water	-	-	-
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride	OECD 425 (Rat) LD50 > 5000 mg/kg bw	OECD 402 (Rat) LD50 > 5000 mg/kg bw	-
Calcium acetate	4280 mg/kg (Rat)	LD50 > 20000 mg/kg ( Rabbit )	LC50 > 5.6 mg/L ( Rat ) 4 h

##### (b) skin corrosion/irritation;

No data available

##### (c) serious eye damage/irritation;

No data available

##### (d) respiratory or skin sensitization;

Respiratory

Category 1

Skin

No data available

Component	Test method	Test species	Study result
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride 1185-53-1 ( 0.16 )	OECD Test Guideline 406	guinea pig	non-sensitising

##### (e) germ cell mutagenicity;

No data available

Component	Test method	Test species	Study result
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride 1185-53-1 ( 0.16 )	OECD Test Guideline 471 Bacterial Reverse Mutation Test	Mammalian in vitro	negative

##### (f) carcinogenicity;

No data available

There are no known carcinogenic chemicals in this product

##### (g) reproductive toxicity;

No data available

##### (h) STOT-single exposure;

No data available

##### (i) STOT-repeated exposure;

No data available

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**Target Organs** No information available.

**(j) aspiration hazard;** No data available

**Symptoms / effects, both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### Ecotoxicity effects

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Glycerin	LC50: 51 - 57 mL/L, 96h static (Oncorhynchus mykiss)			
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride		Daphnia Magna EC50 >100 mg/L (48h)		OECD 209 EC50 > 1000 mg/L (3h)

### Persistence and degradability

**Persistence** Miscible with water, Persistence is unlikely, based on information available.

**Bioaccumulative potential** Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Glycerin	-1.75	No data available
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride	-3.6	No data available

### Mobility in soil

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

**Other adverse effects** No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from Residues/Unused Products** Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used Do not empty into drains

## SECTION 14: TRANSPORT INFORMATION

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<b>IMDG/IMO</b>	Not regulated
<b>Road and Rail Transport</b>	Not regulated
<b>IATA</b>	Not regulated
<b>Special Precautions for User</b>	No special precautions required

## SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

**International Inventories** X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Glycerin	200-289-5	X	X	X	X	X	X	X	KE-29297
Water	231-791-2	X	X	X	X		X	X	KE-35400
Proteinase, tritirachium album serine	254-457-8	-	-	-	-	X	X	-	-
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride	214-684-5	X	X	X	X		X	X	KE-34819
Calcium acetate	200-540-9	X	X	X	X	X	X	X	KE-04463

### National Regulations

**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** This product does not contain any known or suspected substance

## SECTION 16: OTHER INFORMATION

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

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OECD - Organisation for Economic Co-operation and Development  
BCF - Bioconcentration factor

ATE - Acute Toxicity Estimate  
VOC - (Volatile Organic Compound)

## Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Prepared By	Health, Safety and Environmental Department
Revision Date	31-Mar-2025
Revision Summary	Not applicable.

**In accordance with local and national regulations: Occupational Safety and Health  
(Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**