



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
HPR, Schedule 1

Revision date 10-Mar-2025

Revision Number 1

1. Identification

Product identifier

Product Name Thermostable Pyrophosphatase, 2 U/uL

Other means of identification

Product Code(s) PCRAMP-102

PR No

| <u>Product description</u> | <u>Product Code(s)</u> |
|------------------------------|------------------------------|
| Thermostable Pyrophosphatase | 300TAPP-1, 300TAPP-2, TAPP-A |

Recommended use of the chemical and restrictions on use

Recommended use Laboratory use

Restrictions on use No information available

Details of the supplier of the safety data sheet

Initial supplier identifier

Toronto Research Chemicals
101 Milani Blvd.,
Vaughan, Ontario
L4H 4M4

Emergency number: +1(416) 665-9696 between 0800-1700 (GMT-5)
Fax: +14166654439
Web: www.lgcstandards.com

E-mail genomics.sdsrequest@lgcgroup.com

Emergency telephone number

Emergency Telephone

For Hazardous Materials or Dangerous Goods Incidents, Spills, Leaks, Fires, or Exposures, Call CHEMTREC: +17035273887

2. Hazard identification

Classification of the substance or mixture

This product is not considered hazardous in accordance with the Canadian Workplace Hazardous Material Information System (WHMIS 2015).

Label elements



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Hazard statements

This product is not considered hazardous in accordance with the Canadian Workplace Hazardous Material Information System (WHMIS 2015).

Other information

No information available.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

| Chemical name | CAS No. | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---------------|---------|----------|---|---|
| Glycerol | 56-81-5 | 50 - 60% | - | |

4. First-aid measures

Description of first aid measures

Inhalation

Remove to fresh air.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.
Consult a doctor.

Skin contact

Wash skin with soap and water.

Ingestion

Rinse mouth.

Most important symptoms and effects, both acute and delayed

Symptoms

No information available.



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Effects of Exposure No information available.

Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

5. Fire-fighting measures

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

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical No information available.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labelled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage



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Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice.

General hygiene considerations

Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA.

8. Exposure controls/personal protection

Control parameters

Control parameters

Exposure Limits

| Chemical name | Alberta | British Columbia | Ontario | Quebec |
|---------------------|---------------------------|---|---------|---------------------------|
| Glycerol 56-81-5 | TWA: 10 mg/m ³ | TWA: 10 mg/m ³ TWA: 3 mg/m ³ | - | TWA: 10 mg/m ³ |

| Chemical name | Nunavut | Prince Edward Island | Saskatchewan | Yukon |
|---------------|---|----------------------|---|--|
| Glycerol | TWA: 10 mg/m ³ STEL: 20 mg/m ³ | | TWA: 10 mg/m ³ STEL: 20 mg/m ³ | TWA: 30 mppcf TWA: 10 mg/m ³ |

Appropriate engineering controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

Hand protection

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374. Wear protective nitrile rubber gloves.

Skin and body protection

Wear suitable protective clothing.



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| | |
|--|---|
| Respiratory protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| Environmental exposure controls | Do not allow into any sewer, on the ground or into any body of water. |
| General hygiene considerations | Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection. |

9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|-----------------------|----------------|
| Appearance | Liquid |
| Physical state | Liquid |
| Colour | colourless |
| Odour | Characteristic |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| Melting point / freezing point | No data available | None known |
| Initial boiling point and boiling range | No data available | None known |
| Flammability | | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Flash point | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | No data available | None known |
| SADT (°C) | No data available | None known |
| pH | No data available | None known |
| pH (as aqueous solution) | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Water solubility | No data available | None known |
| Solubility(ies) | No data available | None known |
| Partition Coefficient (n-octanol/water) | No data available | None known |
| Vapour pressure | No data available | None known |
| Relative density | No data available | None known |
| Bulk density | No data available | |
| Liquid Density | No data available | |
| Relative vapour density | No data available | None known |
| Particle characteristics | | None known |
| Particle Size | No data available | |
| Particle Size Distribution | No data available | |

Other information



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Information with regards to physical hazard classes

10. Stability and reactivity

| | |
|------------------------------------|---|
| Reactivity | No information available. |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | None known based on information supplied. |
| Incompatible materials | None known based on information supplied. |
| Hazardous decomposition products | None known based on information supplied. |

11. Toxicological information

Information on likely routes of exposure

Product Information

| | |
|--------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. |
| Eye contact | Specific test data for the substance or mixture is not available. |
| Skin contact | Specific test data for the substance or mixture is not available. |
| Ingestion | Specific test data for the substance or mixture is not available. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|----------|---------------------------|
| Symptoms | No information available. |
|----------|---------------------------|

| | |
|----------------|---------------------------|
| Acute toxicity | No information available. |
|----------------|---------------------------|

Numerical measures of toxicity

No information available

The following values are calculated based on chapter 3.1 of the GHS document

| | |
|-------------------------------|-----------------|
| ATEmix (oral) | 99,999.00 mg/kg |
| ATEmix (dermal) | 99,999.00 mg/kg |
| ATEmix (inhalation-gas) | 99,999.00 ppm |
| ATEmix (inhalation-dust/mist) | 99,999.00 mg/l |
| ATEmix (inhalation-vapour) | 99,999.00 mg/l |

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------------|-----------------------|----------------------|-------------------------|
| Glycerol 56-81-5 | = 12600 mg/kg (Rat) | > 10 g/kg (Rabbit) | > 2.75 mg/L (Rat) 4 h |

Delayed and immediate effects as well as chronic effects from short and long-term exposure



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| | |
|-----------------------------------|---------------------------|
| Skin corrosion/irritation | No information available. |
| Serious eye damage/eye irritation | No information available. |
| Respiratory or skin sensitisation | No information available. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | No information available. |
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Aspiration hazard | No information available. |

12. Ecological information

Ecotoxicity The environmental impact of this product has not been fully investigated.

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---------------------|----------------------|---|----------------------------|-----------|
| Glycerol 56-81-5 | - | LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss) | - | - |

Persistence and degradability No information available.

Bioaccumulation No information available.

Component Information

| Chemical name | Partition coefficient |
|---------------------|-----------------------|
| Glycerol 56-81-5 | -1.75 |

Other adverse effects No information available.



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13. Disposal considerations

Disposal methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

14. Transport information

TDG

Not regulated

DOT

Not regulated

ICAO (air)

Not regulated

IATA

Not regulated

IMDG

Not regulated

15. Regulatory information

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

TSCA

LGC has not confirmed that the chemical substances in this product are on the TSCA Inventory, and LGC is distributing this product solely for use either in applications statutorily exempt from TSCA and regulated under other laws (e.g., FFDCA, FIFRA) or in research and development activities in accordance with the TSCA Inventory R&D exemption provided at 40 CFR 720.36. It is the end-user's responsibility to understand and follow the requirements that apply to its use of this product.

| Chemical name | CAS No. | US TSCA Inventory listing | US TSCA inactive/active designation |
|---------------|---------|---------------------------|-------------------------------------|
|---------------|---------|---------------------------|-------------------------------------|



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| Chemical name | CAS No. | US TSCA Inventory listing | US TSCA inactive/active designation |
|----------------------------|-----------|---------------------------|-------------------------------------|
| Glycerol | 56-81-5 | Present | Active |
| Water | 7732-18-5 | Present | Active |
| Non Hazardous Component(s) | - | - | - |

*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

International Inventories

DSL/NDSL

Contact supplier for inventory compliance status.

EINECS/ELINCS

Contact supplier for inventory compliance status.

ENCS

Contact supplier for inventory compliance status.

IECSC

Contact supplier for inventory compliance status.

KECL

Contact supplier for inventory compliance status.

PICCS

Contact supplier for inventory compliance status.

AIIC

Contact supplier for inventory compliance status.

NZIoC

Contact supplier for inventory compliance status.

TCSI

Contact supplier for inventory compliance status.

Legend:

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

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

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

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

TCSI - Taiwan Chemical Substance Inventory

16. Other information

| | | | | |
|-------------|-------------------------|-----------------------|---------------------------|------------------------------|
| NFPA | Health hazards 0 | Flammability 0 | Instability 0 | Special hazards - |
| HMIS | Health hazards 0 | Flammability 0 | Physical hazards 0 | Personal protection X |

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

| | |
|--|---|
| ACGIH | The American Conference of Governmental Industrial Hygienists (ACGIH) Documentation of Threshold Limit Values and Biological Indices (latest edition) |
| ADN | European Agreement on International Transport of Dangerous Goods by Road (ADR) |
| ADR | Agreement concerning the International Carriage of Dangerous Goods by Road (Europe) |
| AIIC | Australian Inventory of Industrial Chemicals |
| P240 - Ground and bond container and receiving equipment | Acute Toxicity Estimate |



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| | |
|---|--|
| P263 - Avoid contact during pregnancy and while nursing | ASTM (formerly known as the American Society for Testing and Materials) |
| bar | Biological Reference Values for Chemical Compounds in the Work Area |
| paste | Biological tolerance values for occupational exposure |
| MEX | Biological exposure limits |
| European Export/Import Restrictions per (EC) 649/2012 - Annex Number | Body weight |
| Ceiling | Maximum limit value |
| CMR Effects | CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction) |
| DOT | DOT (Department of Transportation) |
| DSL | Canadian Domestic Substances List (DSL) |
| EmS | Emergency Schedule |
| ENCS | ENCS (Existing and New Chemical Substances) |
| EPA | EPA (Environmental Protection Agency) |
| GHS | The Globally Harmonised System of Classification and Labelling of Chemicals (GHS) |
| HMIS | Hazardous Materials Identification System |
| IARC | IARC - International Agency for Research on Cancer |
| IATA | (IATA) International Air Transport Association |
| IBCs | International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk |
| ICAO | The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule) |
| IECSC | China (IECSC) |
| IMDG | Sea transport (IMDG) |
| Directive 84/449/EEC, Annex, C.10 | International Maritime Organization |
| Directive 84/449/EEC, Annex, A.7 | ISO (The International Organization for Standardisation) |
| KECL | South Korea (KECL) |
| LC50 | Lethal Concentration to 50% of a test population |
| LD50 | Lethal Dose to 50% of a test population (Median Lethal Dose) |
| Harmful Substances - names to be indicated on the label; Industrial Safety and Health Law enforcement order article 18 (related to Industrial Safety and Health Law article 57) | International Convention for the Prevention of Pollution from Ships |
| NFPA | National Fire Protection Association |
| n.o.s. | Not Otherwise Specified |
| NOAEC | No Observed Adverse Effect Concentration |
| NOAEL | NOAEL (No observed adverse effect level) |
| Other names | No Observable Effect Loading Rate |



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| | |
|---|---|
| NZIoC | NZIoC - New Zealand Inventory of Chemicals |
| Harmful Substances - names to be indicated on the label; Industrial Safety and Health Law enforcement order article 18 (related to Industrial Safety and Health Law article 57) | OECD (Organization for Economic Cooperation and Development) |
| OEL | Occupational exposure limits |
| PBT | Persistent, Bioaccumulative and Toxic substance |
| PICCS | PICCS - Philippines Inventory of Chemicals and Chemical Substances |
| Chemically unstable gas A | Persistent, Mobile and Toxic |
| Terrestrial ecotoxicity | Personal protective equipment |
| QSAR | Quantitative Structure Activity Relationships [QSAR] |
| RID | Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe) |
| SADT | Self-Accelerating Decomposition Temperature |
| SAR | Structure-activity relationship |
| SDS | Safety Data Sheet |
| SL | Surface Limit |
| STEL | STEL - Short Term Exposure Limit |
| STOT RE | Specific target organ toxicity - Repeated exposure |
| STOT SE | Specific target organ toxicity - Single exposure |
| TCSI | Taiwan Chemical Substance Inventory |
| TDG | TDG (Transport of Dangerous Goods) Canada |
| TSCA | TSCA (Toxic Substances Control Act) |
| TWA | Time-Weighted Average |
| UN | United Nations |
| VOC | Volatile organic compounds |
| vPvB | Very Persistent and Very Bioaccumulative |
| vPvM | Very Persistent and Very Mobile |
| Sen+ | Sensitiser |
| Sk* | Skin designation |
| ** | Hazard Designation |

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)



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National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 10-Mar-2025
Revision Note No information available.

Disclaimer

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/ or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

End of Safety Data Sheet