

KIT SAFETY DATA SHEET



Kit Product Name Criterion Stain Free Starter Kit

Kit Catalogue Number(s) 1708165, 1708165EDU

Revision date 29-Nov-2023

Kit Contents

| Catalogue Number(s) | Product Name |
|---|--|
| 1610732, 1610772, 1610732EDU, 1610772EDU, 10021723 | 10X Tris/Glycine/SDS Buffer |
| 1610737, 1610737EDU, 1610737XTU | 2X Laemmli Sample Buffer |
| 1610610, 1610611, 1610610EDU, 1610611EDU, 10013901 | Dithiothreitol (DTT) |
| 1610303, 1610304, 1610317, 1610303EDU, 1610304EDU, 1610317EDU | SDS-PAGE Standards High / Low Range |
| 3450412, 3450418, 3450426, 3451012, 3458161, 3458162, 3458166 | Criterion Precast Gel Stain Free |
| 1610363, 1610363S, 1610363EDU, 1610396, 10022173, 12002084, 9724468 | Precision Plus Protein Unstained Standards |

SAFETY DATA SHEET

Revision date 29-Nov-2023

Revision Number 1.2

Section 1: Identification

Product identifier

Product Name 10X Tris/Glycine/SDS Buffer
Catalogue Number(s) 1610732, 1610772, 1610732EDU, 1610772EDU, 10021723

Other means of identification

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals
Uses advised against No information available

Details of the supplier of the safety data sheet

| | | |
|--|---|---|
| Supplier Bio-Rad Laboratories Inc. 1000 Alfred Nobel Drive Hercules, CA 94547 USA | Manufacturer Bio-Rad Laboratories, Life Science Group 2000 Alfred Nobel Drive Hercules, California 94547 USA | Importer Bio-Rad Laboratories Pty Ltd 189 Bush Road Auckland New Zealand |
| Technical Service | +64 9 415 2280 or 0508 805 500 sales.nz@bio-rad.com | |

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC New Zealand: 64-98010034

Section 2: Hazard identification

GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS) Not classified

Label elements

Hazard statements

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS) Not classified

Other hazards which do not result in classification

No information available.

Section 3: Composition/information on ingredients

The product contains no substances which at their given concentration, are considered to be hazardous to health

| Chemical name | CAS No | Weight-% |
|---------------------------|-------------|----------|
| Non-hazardous ingredients | Proprietary | Balance |

Section 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. |
| Effects of Exposure | No information available. |

Indication of any immediate medical attention and special treatment needed

| | |
|-----------------|------------------------|
| Note to doctors | Treat symptomatically. |
|-----------------|------------------------|

Section 5: Fire-fighting measures

Suitable Extinguishing Media

| | |
|--------------------------------|---|
| 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

| | |
|--|---------------------------|
| Specific hazards arising from the chemical | No information available. |
|--|---------------------------|

Special protective actions for fire-fighters

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

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

| | |
|--------------------------|---|
| Personal precautions | Ensure adequate ventilation. |
| For emergency responders | Use personal protection recommended in Section 8. |

Environmental precautions

| | |
|---------------------------|---|
| Environmental precautions | See Section 12 for additional Ecological Information. |
|---------------------------|---|

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.

Precautions to prevent secondary hazards

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

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store according to product and label instructions.

Incompatible materials None known based on information supplied.

Section 8: Exposure controls/personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Hand protection No special protective equipment required.

Skin and body protection No special protective equipment required.

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 No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance aqueous solution
Colour light yellow
Odour Odourless.
Odour threshold No information available

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---|---------------------------|-------------------------|
| pH | 8.3 | |
| Melting point / freezing point | No data available | None known |
| Initial boiling point and boiling range | > 100 °C | |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapour pressure | No data available | None known |
| Relative vapour density | No data available | None known |
| Relative density | 0.99 | None known |
| Water solubility | Miscible in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | 248 °C | |
| Decomposition temperature | | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Explosive properties | No information available. | |
| Oxidising properties | No information available. | |
| <u>Other information</u> | | |
| Softening point | No information available | |
| Molecular weight | No information available | |
| VOC content | No information available | |
| Liquid Density | No information available | |
| Bulk density | No information available | |
| Particle characteristics | No information available | |

Section 10: Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid None known based on information supplied.

Incompatible materials

Incompatible materials None known based on information supplied.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

Section 11: Toxicological information

Acute toxicity

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 No information available.

Acute toxicity

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Numerical measures of toxicity

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

ATEmix (oral) 42,252.30 mg/kg

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

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.

Data used to identify the health effects Refer to Section 16 for Key literature references and sources for data used to compile the SDS.

Section 12: Ecological information

Ecotoxicity

| | |
|--------------------------------------|--|
| Aquatic ecotoxicity | The environmental impact of this product has not been fully investigated. |
| Unknown aquatic toxicity | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| Terrestrial ecotoxicity | There is no data for this product. |
| Persistence and degradability | No information available. |

Bioaccumulative potential

| | |
|------------------------|------------------------------------|
| Bioaccumulation | There is no data for this product. |
|------------------------|------------------------------------|

Mobility in soil

| | |
|-----------------|---------------------------|
| Mobility | No information available. |
|-----------------|---------------------------|

Other adverse effects

No information available.

Section 13: Disposal considerations**Disposal methods**

| | |
|--|---|
| Waste from residues/unused products | Not applicable. Not Hazardous. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| Contaminated packaging | Not applicable. Not Hazardous. |

Section 14: Transport information

| | |
|--------------------|---------------|
| <u>IATA</u> | Not regulated |
|--------------------|---------------|

| | |
|--------------------|---------------|
| <u>IMDG</u> | Not regulated |
|--------------------|---------------|

Transport in bulk according to Annex II of MARPOL and the IBC Code
No information available

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations**

EPA New Zealand HSNO approval code or group standard To be determined

| | |
|---|--|
| National regulations | There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances |
| Certified handlers, tracking and controlled substance license requirements | <p>Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information</p> <p>Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information</p> <p>Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information</p> |

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

International Inventories

| | |
|----------------------|---|
| NZIoC | Contact supplier for inventory compliance status. |
| TSCA | Contact supplier for inventory compliance status. |
| DSL/NDL | 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. |

Legend:

NZIoC - New Zealand Inventory of Chemicals
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - 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

Section 16: Other information

Revision date 29-Nov-2023
Revision Note Reformatted and updated existing information.

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|----------------|-----------------------------|-------------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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)
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

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

SAFETY DATA SHEET

Revision date 29-Nov-2023

Revision Number 1.3

Section 1: Identification

Product identifier

Product Name 2X Laemmli Sample Buffer
Catalogue Number(s) 1610737, 1610737EDU, 1610737XTU

Other means of identification

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals
Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier

Bio-Rad Laboratories Inc.
1000 Alfred Nobel Drive
Hercules, CA 94547
USA

Manufacturer

Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547
USA

Importer

Bio-Rad Laboratories Pty Ltd
189 Bush Road
Auckland
New Zealand

Technical Service +64 9 415 2280 or 0508 805 500
sales.nz@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC New Zealand: 64-98010034

Section 2: Hazard identification

GHS Classification

| | |
|--|------------|
| Serious eye damage/eye irritation | Category 2 |
| Chronic aquatic toxicity | Category 3 |

Label elements



Signal word

Warning

Hazard statements

Causes serious eye irritation
Harmful to aquatic life with long lasting effects

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Avoid release to the environment
Wear protective gloves/clothing and eye/face protection

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification

May be harmful if inhaled. Causes mild skin irritation. Harmful to aquatic life.

Section 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---------------------------|-------------|----------|
| 1,2,3-Propanetriol | 56-81-5 | 20 - 35 |
| Non-hazardous ingredients | Proprietary | Balance |

Section 4: First-aid measures**Description of first aid measures**

| | |
|---|---|
| General advice | Show this safety data sheet to the doctor in attendance. |
| Inhalation | Remove to fresh air. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists. |
| Skin contact | Wash skin with soap and water. |
| Ingestion | Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). |

Most important symptoms and effects, both acute and delayed

Symptoms May cause redness and tearing of the eyes. Burning sensation. Prolonged contact may cause redness and irritation.

Effects of Exposure No information available.

Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

Section 5: Fire-fighting measures**Suitable Extinguishing Media**

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

Specific hazards arising from the chemical No information available.

Special protective actions for fire-fighters

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

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

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.

Precautions to prevent secondary hazards

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

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. For long-term storage, keep the battery at temperatures between 10°C-30°C.

Incompatible materials None known based on information supplied.

Section 8: Exposure controls/personal protection

Control parameters**Exposure Limits**

| Chemical name | New Zealand | Australia | ACGIH TLV | United Kingdom |
|-------------------------------|---------------------------|---------------------------|-----------|---|
| 1,2,3-Propanetriol 56-81-5 | TWA: 10 mg/m ³ | TWA: 10 mg/m ³ | - | TWA: 10 mg/m ³ STEL: 30 mg/m ³ |

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

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 No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance Liquid
Colour light blue
Odour Odourless.
Odour threshold No information available

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|---------------------------|-------------------------|
| pH | 6-7 | |
| Melting point / freezing point | No data available | None known |
| Initial boiling point and boiling range | 100 °C | |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapour pressure | No data available | None known |
| Relative vapour density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | Miscible in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | 248 °C | |
| Decomposition temperature | | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Explosive properties | No information available. | |
| Oxidising properties | No information available. | |

Other information

Softening point No information available
Molecular weight No information available
VOC content No information available
Liquid Density No information available

| | |
|--------------------------|--------------------------|
| Bulk density | No information available |
| Particle characteristics | No information available |

Section 10: Stability and reactivity

Reactivity

| | |
|------------|---------------------------|
| Reactivity | No information available. |
|------------|---------------------------|

Chemical stability

| | |
|-----------|---------------------------------|
| Stability | Stable under normal conditions. |
|-----------|---------------------------------|

Explosion data

| | |
|----------------------------------|-------|
| Sensitivity to mechanical impact | None. |
|----------------------------------|-------|

| | |
|---------------------------------|-------|
| Sensitivity to static discharge | None. |
|---------------------------------|-------|

Possibility of hazardous reactions

| | |
|------------------------------------|-------------------------------|
| Possibility of hazardous reactions | None under normal processing. |
|------------------------------------|-------------------------------|

Conditions to avoid

| | |
|---------------------|---|
| Conditions to avoid | None known based on information supplied. |
|---------------------|---|

Incompatible materials

| | |
|------------------------|---|
| Incompatible materials | None known based on information supplied. |
|------------------------|---|

Hazardous decomposition products

| | |
|----------------------------------|---|
| Hazardous decomposition products | None known based on information supplied. |
|----------------------------------|---|

Section 11: Toxicological information

Acute toxicity

Information on likely routes of exposure

Product Information

| | |
|--------------|--|
| Inhalation | Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May be harmful if inhaled. |
| Eye contact | Specific test data for the substance or mixture is not available. Causes serious eye irritation (based on components). May cause redness, itching, and pain. |
| Skin contact | Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation. Causes mild skin irritation. |
| Ingestion | Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. |
| Symptoms | May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation. |

Acute toxicity

Numerical measures of toxicity

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

ATEmix (oral) 61,333.30 mg/kg
ATEmix (inhalation-dust/mist) 46.40 mg/l

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------|-----------------------|----------------------|-------------------------|
| 1,2,3-Propanetriol | = 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

| | |
|---|---|
| Skin corrosion/irritation | Classification based on data available for ingredients. Causes mild skin irritation. |
| Serious eye damage/eye irritation | Classification based on data available for ingredients. Causes serious eye irritation. |
| 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. |
| Data used to identify the health effects | Refer to Section 16 for Key literature references and sources for data used to compile the SDS. |

Section 12: Ecological information

Ecotoxicity

| | |
|---------------------------------|--|
| Aquatic ecotoxicity | Harmful to aquatic life with long lasting effects. |
| Unknown aquatic toxicity | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |

| Chemical name | Algae/aquatic plants | Fish | Crustacea |
|--------------------|----------------------|--|-----------|
| 1,2,3-Propanetriol | - | LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss) | - |

Terrestrial ecotoxicity There is no data for this product.

Persistence and degradability No information available.

Bioaccumulative potential**Bioaccumulation****Component Information**

| Chemical name | Partition coefficient |
|--------------------|-----------------------|
| 1,2,3-Propanetriol | -1.75 |

Mobility in soil

Mobility No information available.

Other adverse effects

No information available.

Section 13: Disposal considerations

Disposal methods**Waste from residues/unused products**

Dispose of product in packaging in a way that is consistent with the EPA Consolidation 30 April 2021 of the Hazardous Substances (Disposal) Notice 2017 and the Act. Treat the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance; or export the substance from New Zealand as waste.

Substances which are hazardous to human health or corrosive to metals – may be discharged into the environment if a tolerable exposure limit has been set for the substance (or a component of that substance); and the discharge does not, after reasonable mixing, result in the concentration of the substance in an environmental medium exceeding the tolerable exposure limit. If there is no tolerable exposure limit for the substance, then it may only be discharged into the environment if the substance is very rapidly converted to substances that are not hazardous substances.

Environmentally hazardous substances – if the substance, or if it contains a component that is hazardous to the aquatic environment or bioaccumulative and not rapidly degradable, then any component that is bioaccumulative and not rapidly degradable must be removed. The product may only be discharged into the environment if an environmental exposure limit has been set for the substance (or a component of the substance); and the discharge does not, after reasonable mixing, result in the concentration of the substance in an environmental medium exceeding the environmental exposure limit.

Contaminated packaging

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from.

Packages may only be reused or recycled if:

- the substance has a physical hazard other than corrosive to metal, and has been treated to remove any residual contents of the hazardous substance;
- or for substances that have a health or environmental hazard, or corrosive to metal, the contents of the residue in the package are below the threshold for the substance to be classified as hazardous in the Hazardous Substances (Hazard Classification) Notice 2020.

Section 14: Transport information

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code

No information available

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information

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

National regulations

EPA New Zealand HSNO approval code or group standard To be determined

National regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

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

International Inventories

| | |
|----------------------|---|
| NZIoC | Contact supplier for inventory compliance status. |
| TSCA | Contact supplier for inventory compliance status. |
| DSL/NDL | 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. |

Legend:

NZIoC - New Zealand Inventory of Chemicals

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

DSL/NDL - 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

Section 16: Other information

Revision date 29-Nov-2023

Revision Note Reformatted and updated existing information.

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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)
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

Disclaimer

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End of Safety Data Sheet

SAFETY DATA SHEET

Revision date 29-Nov-2023

Revision Number 1.3

Section 1: Identification

Product identifier

Product Name Dithiothreitol (DTT)
Catalogue Number(s) 1610610, 1610611, 1610610EDU, 1610611EDU, 10013901

Other means of identification

CAS No 3483-12-3

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals
Uses advised against No information available

Details of the supplier of the safety data sheet

| <u>Supplier</u> | <u>Manufacturer</u> | <u>Importer</u> |
|---|--|---|
| Bio-Rad Laboratories Inc. 1000 Alfred Nobel Drive Hercules, CA 94547 USA | Bio-Rad Laboratories, Life Science Group 2000 Alfred Nobel Drive Hercules, California 94547 USA | Bio-Rad Laboratories Pty Ltd 189 Bush Road Albany Auckland New Zealand |

Technical Service +64 9 415 2280 or 0508 805 500
sales.nz@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC New Zealand: 64-98010034

Section 2: Hazard identification

GHS Classification

| | |
|-----------------------------------|------------|
| Acute toxicity - Oral | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2 |

Label elements



Signal word
Warning

Hazard statements
Harmful if swallowed
Causes skin irritation
Causes serious eye irritation

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/clothing and eye/face protection

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

Skin

IF ON SKIN: Wash with plenty of water and soap

If skin irritation occurs: Get medical advice/attention

Take off all contaminated clothing and wash it before reuse

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

Rinse mouth

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification

Toxic to aquatic life.

Section 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|-----------|----------|
| 2,3-Butanediol, 1,4-dimercapto-, (R*,R*)- | 3483-12-3 | 50 - 100 |

Section 4: First-aid measures**Description of first aid measures**

| | |
|---|---|
| General advice | Show this safety data sheet to the doctor in attendance. |
| Inhalation | Remove to fresh air. Get medical attention immediately if symptoms occur. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists. |
| Skin contact | Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists. |
| Ingestion | Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a doctor. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). |

Most important symptoms and effects, both acute and delayed

Symptoms May cause redness and tearing of the eyes. Burning sensation.

Effects of Exposure No information available.

Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

Section 5: Fire-fighting measures

Suitable Extinguishing Media

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

Specific hazards arising from the chemical No information available.

Special protective actions for fire-fighters

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

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

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.

Precautions to prevent secondary hazards

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

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse.

General hygiene considerations Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. For long-term storage, keep the battery at temperatures between 10°C-30°C.

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

Section 8: Exposure controls/personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection If splashes are likely to occur, wear safety glasses with side-shields.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

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 No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Solid
Appearance Powder
Colour white
Odour Sulphurous.
Odour threshold No information available

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH | | None known |
| Melting point / freezing point | 42 °C | |
| Initial boiling point and boiling range | 110 °C | |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapour pressure | No data available | None known |
| Relative vapour density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | Soluble in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | | None known |

| | | |
|---------------------------------|---------------------------|------------|
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Explosive properties | No information available. | |
| Oxidising properties | No information available. | |
| <u>Other information</u> | | |
| Softening point | No information available | |
| Molecular weight | No information available | |
| VOC content | No information available | |
| Liquid Density | No information available | |
| Bulk density | No information available | |
| Particle characteristics | No information available | |

Section 10: Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid None known based on information supplied.

Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

Section 11: Toxicological information

Acute toxicity

Information on likely routes of exposure

Product Information

| | |
|---------------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. |
| Eye contact | Specific test data for the substance or mixture is not available. Causes serious eye irritation (based on components). May cause redness, itching, and pain. |
| Skin contact | Specific test data for the substance or mixture is not available. Causes skin irritation (based on components). |
| Ingestion | Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Harmful if swallowed (based on |

| | |
|--|---|
| | components). |
| Symptoms | Redness. May cause redness and tearing of the eyes. |
| <u>Acute toxicity</u> | Harmful if swallowed. |
| Numerical measures of toxicity No information available | |
| <u>Delayed and immediate effects as well as chronic effects from short and long-term exposure</u> | |
| Skin corrosion/irritation | Classification based on data available for ingredients. Causes skin irritation. |
| Serious eye damage/eye irritation | Classification based on data available for ingredients. Causes serious eye irritation. |
| 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. |
| Data used to identify the health effects | Refer to Section 16 for Key literature references and sources for data used to compile the SDS. |

Section 12: Ecological information

Ecotoxicity

| | |
|--------------------------------------|------------------------------------|
| Aquatic ecotoxicity | Toxic to aquatic life. |
| Terrestrial ecotoxicity | There is no data for this product. |
| Persistence and degradability | No information available. |

Bioaccumulative potential

| | |
|------------------------|------------------------------------|
| Bioaccumulation | There is no data for this product. |
|------------------------|------------------------------------|

Mobility in soil

Mobility No information available.

Other adverse effects

No information available.

Section 13: Disposal considerations**Disposal methods****Waste from residues/unused products**

Dispose of product in packaging in a way that is consistent with the EPA Consolidation 30 April 2021 of the Hazardous Substances (Disposal) Notice 2017 and the Act. Treat the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance; or export the substance from New Zealand as waste.

Substances which are hazardous to human health or corrosive to metals – may be discharged into the environment if a tolerable exposure limit has been set for the substance (or a component of that substance); and the discharge does not, after reasonable mixing, result in the concentration of the substance in an environmental medium exceeding the tolerable exposure limit. If there is no tolerable exposure limit for the substance, then it may only be discharged into the environment if the substance is very rapidly converted to substances that are not hazardous substances.

Contaminated packaging

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from.

Packages may only be reused or recycled if:

- the substance has a physical hazard other than corrosive to metal, and has been treated to remove any residual contents of the hazardous substance;
- or for substances that have a health or environmental hazard, or corrosive to metal, the contents of the residue in the package are below the threshold for the substance to be classified as hazardous in the Hazardous Substances (Hazard Classification) Notice 2020.

Section 14: Transport information

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code

No information available

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

EPA New Zealand HSNO approval code or group standard To be determined

National regulations There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain

requirements fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information
Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information
Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

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

International Inventories

| | |
|----------------------|---|
| NZIoC | Contact supplier for inventory compliance status. |
| TSCA | Contact supplier for inventory compliance status. |
| DSL/NDL | 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. |

Legend:

NZIoC - New Zealand Inventory of Chemicals
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - 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

Section 16: Other information

Revision date 29-Nov-2023

Revision Note Reformatted and updated existing information.

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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)
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

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End of Safety Data Sheet

SAFETY DATA SHEET

Revision date 29-Nov-2023

Revision Number 1.2

Section 1: Identification

Product identifier

Product Name SDS-PAGE Standards High / Low Range
Catalogue Number(s) 1610303, 1610304, 1610317, 1610303EDU, 1610304EDU, 1610317EDU

Other means of identification

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals
Uses advised against No information available

Details of the supplier of the safety data sheet

| | | |
|--|---|--|
| Supplier Bio-Rad Laboratories Inc. 1000 Alfred Nobel Drive Hercules, CA 94547 USA | Manufacturer Bio-Rad Laboratories, Life Science Group 2000 Alfred Nobel Drive Hercules, California 94547 USA | Importer Bio-Rad Laboratories Pty Ltd 189 Bush Road Albany Auckland New Zealand |
| Technical Service | +64 9 415 2280 or 0508 805 500 sales.nz@bio-rad.com | |

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC New Zealand: 64-98010034

Section 2: Hazard identification

GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS) Not classified

Label elements

Hazard statements

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS) Not classified

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification

Harmful to aquatic life. Contains animal source material. (Cattle).

Section 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|--------------------|---------|----------|
| 1,2,3-Propanetriol | 56-81-5 | 50 - 100 |

| | | |
|---------------------------|-------------|---------|
| Non-hazardous ingredients | Proprietary | Balance |
|---------------------------|-------------|---------|

Section 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. |
| Effects of Exposure | No information available. |

Indication of any immediate medical attention and special treatment needed

| | |
|-----------------|------------------------|
| Note to doctors | Treat symptomatically. |
|-----------------|------------------------|

Section 5: Fire-fighting measures

Suitable Extinguishing Media

| | |
|------------------------------|---|
| 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

| | |
|--|---------------------------|
| Specific hazards arising from the chemical | No information available. |
|--|---------------------------|

Special protective actions for fire-fighters

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

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

| | |
|--------------------------|---|
| Personal precautions | Ensure adequate ventilation. |
| For emergency responders | Use personal protection recommended in Section 8. |

Environmental precautions

| | |
|---------------------------|---|
| Environmental precautions | See Section 12 for additional Ecological Information. |
|---------------------------|---|

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.

Precautions to prevent secondary hazards

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

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store according to product and label instructions.

Incompatible materials None known based on information supplied.

Section 8: Exposure controls/personal protection

Control parameters

Exposure Limits

| Chemical name | New Zealand | Australia | ACGIH TLV | United Kingdom |
|-------------------------------|---------------------------|---------------------------|-----------|---|
| 1,2,3-Propanetriol 56-81-5 | TWA: 10 mg/m ³ | TWA: 10 mg/m ³ | - | TWA: 10 mg/m ³ STEL: 30 mg/m ³ |

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Hand protection No special protective equipment required.

Skin and body protection No special protective equipment required.

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 No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid

| | |
|-----------------|--------------------------|
| Appearance | aqueous solution |
| Colour | colourless |
| Odour | Odourless. |
| Odour threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---|---------------------------|-------------------------|
| pH | | None known |
| Melting point / freezing point | > 0 °C | |
| Initial boiling point and boiling range | > 100 °C | |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapour pressure | No data available | None known |
| Relative vapour density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | Miscible in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Explosive properties | No information available. | |
| Oxidising properties | No information available. | |
| <u>Other information</u> | | |
| Softening point | No information available | |
| Molecular weight | No information available | |
| VOC content | No information available | |
| Liquid Density | No information available | |
| Bulk density | No information available | |
| Particle characteristics | No information available | |

Section 10: Stability and reactivity

Reactivity

| | |
|------------|---------------------------|
| Reactivity | No information available. |
|------------|---------------------------|

Chemical stability

| | |
|-----------|---------------------------------|
| Stability | Stable under normal conditions. |
|-----------|---------------------------------|

Explosion data

| | |
|----------------------------------|-------|
| Sensitivity to mechanical impact | None. |
|----------------------------------|-------|

| | |
|---------------------------------|-------|
| Sensitivity to static discharge | None. |
|---------------------------------|-------|

Possibility of hazardous reactions

| | |
|------------------------------------|-------------------------------|
| Possibility of hazardous reactions | None under normal processing. |
|------------------------------------|-------------------------------|

Conditions to avoid

| | |
|---------------------|---|
| Conditions to avoid | None known based on information supplied. |
|---------------------|---|

Incompatible materials

Incompatible materials None known based on information supplied.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

Section 11: Toxicological information

Acute toxicity

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 No information available.

Acute toxicity .

Numerical measures of toxicity

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

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------|-----------------------|----------------------|-------------------------|
| 1,2,3-Propanetriol | = 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

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.

Data used to identify the health effects

Refer to Section 16 for Key literature references and sources for data used to compile the SDS.

Section 12: Ecological information**Ecotoxicity****Aquatic ecotoxicity**

Harmful to aquatic life.

Unknown aquatic toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

| Chemical name | Algae/aquatic plants | Fish | Crustacea |
|--------------------|----------------------|--|-----------|
| 1,2,3-Propanetriol | - | LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss) | - |

Terrestrial ecotoxicity

There is no data for this product.

Persistence and degradability

No information available.

Bioaccumulative potential**Bioaccumulation****Component Information**

| Chemical name | Partition coefficient |
|--------------------|-----------------------|
| 1,2,3-Propanetriol | -1.75 |

Mobility in soil**Mobility**

No information available.

Other adverse effects

No information available.

Section 13: Disposal considerations**Disposal methods****Waste from residues/unused products**

Not applicable.
 Not Hazardous.
 Dispose of in accordance with local regulations.
 Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Not applicable.
 Not Hazardous.

Section 14: Transport information**IATA**

Not regulated

IMDG

Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code

No information available

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information

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

National regulations

EPA New Zealand HSNO approval code or group standard To be determined

National regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

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

International Inventories

| | |
|----------------------|---|
| NZIoC | Contact supplier for inventory compliance status. |
| TSCA | Contact supplier for inventory compliance status. |
| 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. |

Legend:

NZIoC - New Zealand Inventory of Chemicals

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

Section 16: Other information

Revision date 29-Nov-2023

Revision Note Reformatted and updated existing information.

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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)
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

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

SAFETY DATA SHEET

Revision date 29-Nov-2023

Revision Number 1.1

Section 1: Identification

Product identifier

Product Name Criterion Precast Gel Stain Free
Catalogue Number(s) 3450412, 3450418, 3450426, 3451012, 3458161, 3458162, 3458166

Other means of identification

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals
Uses advised against No information available

Details of the supplier of the safety data sheet

| | | |
|--|---|---|
| Supplier Bio-Rad Laboratories Inc. 1000 Alfred Nobel Drive Hercules, CA 94547 USA | Manufacturer Bio-Rad Laboratories, Life Science Group 2000 Alfred Nobel Drive Hercules, California 94547 USA | Importer Bio-Rad Laboratories Pty Ltd 189 Bush Road Auckland New Zealand |
| Technical Service | +64 9 415 2280 or 0508 805 500 sales.nz@bio-rad.com | |

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC New Zealand: 64-98010034

Section 2: Hazard identification

GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS) Not classified

Label elements

Hazard statements

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS) Not classified

Other hazards which do not result in classification

No information available.

Section 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---------------------------|-------------|----------|
| 1,2,3-Propanetriol | 56-81-5 | 5 - 10 |
| Non-hazardous ingredients | Proprietary | Balance |

Section 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. |
| Effects of Exposure | No information available. |

Indication of any immediate medical attention and special treatment needed

| | |
|-----------------|------------------------|
| Note to doctors | Treat symptomatically. |
|-----------------|------------------------|

Section 5: Fire-fighting measures

Suitable Extinguishing Media

| | |
|------------------------------|---|
| 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

| | |
|--|---------------------------|
| Specific hazards arising from the chemical | No information available. |
|--|---------------------------|

Special protective actions for fire-fighters

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

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

| | |
|--------------------------|---|
| Personal precautions | Ensure adequate ventilation. |
| For emergency responders | Use personal protection recommended in Section 8. |

Environmental precautions

| | |
|---------------------------|---|
| Environmental precautions | See Section 12 for additional Ecological Information. |
|---------------------------|---|

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.

Precautions to prevent secondary hazards

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

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store according to product and label instructions.

Incompatible materials None known based on information supplied.

Section 8: Exposure controls/personal protection

Control parameters

Exposure Limits

| Chemical name | New Zealand | Australia | ACGIH TLV | United Kingdom |
|-------------------------------|---------------------------|---------------------------|-----------|---|
| 1,2,3-Propanetriol 56-81-5 | TWA: 10 mg/m ³ | TWA: 10 mg/m ³ | - | TWA: 10 mg/m ³ STEL: 30 mg/m ³ |

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Hand protection No special protective equipment required.

Skin and body protection No special protective equipment required.

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 No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Solid
Appearance gel

| | |
|-----------------|--------------------------|
| Colour | colourless |
| Odour | Odourless. |
| Odour threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---|---------------------------|-------------------------|
| pH | | None known |
| Melting point / freezing point | No data available | None known |
| Initial boiling point and boiling range | > 100 °C | |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapour pressure | No data available | None known |
| Relative vapour density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | Soluble in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Explosive properties | No information available. | |
| Oxidising properties | No information available. | |
| <u>Other information</u> | | |
| Softening point | No information available | |
| Molecular weight | No information available | |
| VOC content | No information available | |
| Liquid Density | No information available | |
| Bulk density | No information available | |
| Particle characteristics | No information available | |

Section 10: Stability and reactivity

Reactivity

| | |
|------------|---------------------------|
| Reactivity | No information available. |
|------------|---------------------------|

Chemical stability

| | |
|-----------|---------------------------------|
| Stability | Stable under normal conditions. |
|-----------|---------------------------------|

Explosion data

| | |
|----------------------------------|-------|
| Sensitivity to mechanical impact | None. |
|----------------------------------|-------|

| | |
|---------------------------------|-------|
| Sensitivity to static discharge | None. |
|---------------------------------|-------|

Possibility of hazardous reactions

| | |
|------------------------------------|-------------------------------|
| Possibility of hazardous reactions | None under normal processing. |
|------------------------------------|-------------------------------|

Conditions to avoid

| | |
|---------------------|---|
| Conditions to avoid | None known based on information supplied. |
|---------------------|---|

Incompatible materials

| | |
|------------------------|---|
| Incompatible materials | None known based on information supplied. |
|------------------------|---|

Hazardous decomposition products**Hazardous decomposition products** None known based on information supplied.**Section 11: Toxicological information****Acute toxicity****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** No information available.**Acute toxicity** .**Numerical measures of toxicity****Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------|-----------------------|----------------------|-------------------------|
| 1,2,3-Propanetriol | = 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**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.**Data used to identify the health effects** Refer to Section 16 for Key literature references and sources for data used to compile the SDS.

Section 12: Ecological information

Ecotoxicity

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

Unknown aquatic toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

| Chemical name | Algae/aquatic plants | Fish | Crustacea |
|--------------------|----------------------|--|-----------|
| 1,2,3-Propanetriol | - | LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss) | - |

Terrestrial ecotoxicity There is no data for this product.

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation

Component Information

| Chemical name | Partition coefficient |
|--------------------|-----------------------|
| 1,2,3-Propanetriol | -1.75 |

Mobility in soil

Mobility No information available.

Other adverse effects

No information available.

Section 13: Disposal considerations

Disposal methods

Waste from residues/unused products Not applicable.
Not Hazardous.
Dispose of in accordance with local regulations.
Dispose of waste in accordance with environmental legislation.

Contaminated packaging Not applicable.
Not Hazardous.

Section 14: Transport information

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code
No information available

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information

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

EPA New Zealand HSNO approval code or group standard To be determined

National regulations There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information
Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information
Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

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

International Inventories

| | |
|----------------------|---|
| NZIoC | Contact supplier for inventory compliance status. |
| TSCA | Contact supplier for inventory compliance status. |
| DSL/NDL | 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. |

Legend:

NZIoC - New Zealand Inventory of Chemicals
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DSL/NDL - 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

Section 16: Other information

Revision date 29-Nov-2023

Revision Note Reformatted and updated existing information.

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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)
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

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End of Safety Data Sheet

SAFETY DATA SHEET

Revision date 29-Nov-2023

Revision Number 1.1

Section 1: Identification

Product identifier

Product Name Precision Plus Protein Unstained Standards
Catalogue Number(s) 1610363, 1610363S, 1610363EDU, 1610396, 10022173, 12002084, 9724468

Other means of identification

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals
Uses advised against No information available

Details of the supplier of the safety data sheet

| <u>Supplier</u> | <u>Manufacturer</u> | <u>Importer</u> |
|---|--|---|
| Bio-Rad Laboratories Inc. 1000 Alfred Nobel Drive Hercules, CA 94547 USA | Bio-Rad Laboratories, Life Science Group 2000 Alfred Nobel Drive Hercules, California 94547 USA | Bio-Rad Laboratories Pty Ltd 189 Bush Road Albany Auckland New Zealand |
| Technical Service | +64 9 415 2280 or 0508 805 500 sales.nz@bio-rad.com | |

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC New Zealand: 64-98010034

Section 2: Hazard identification

GHS Classification

| | |
|-----------------------------------|------------|
| Serious eye damage/eye irritation | Category 2 |
| Chronic aquatic toxicity | Category 3 |

Label elements



Signal word
Warning

Hazard statements
Causes serious eye irritation
Harmful to aquatic life with long lasting effects

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling

Avoid release to the environment
Wear protective gloves/clothing and eye/face protection

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification

May be harmful if inhaled. Causes mild skin irritation. Harmful to aquatic life.

Section 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---------------------------|-------------|--------------|
| 1,2,3-Propanetriol | 56-81-5 | 20 - 35 |
| Sodium azide | 26628-22-8 | 0.01 - 0.099 |
| Hydrochloric acid | 7647-01-0 | 0.001 - 0.01 |
| Non-hazardous ingredients | Proprietary | Balance |

Section 4: First-aid measures**Description of first aid measures**

| | |
|---|---|
| General advice | Show this safety data sheet to the doctor in attendance. |
| Inhalation | Remove to fresh air. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists. |
| Skin contact | Wash skin with soap and water. |
| Ingestion | Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). |

Most important symptoms and effects, both acute and delayed

| | |
|----------------------------|---|
| Symptoms | May cause redness and tearing of the eyes. Burning sensation. Prolonged contact may cause redness and irritation. |
| Effects of Exposure | No information available. |

Indication of any immediate medical attention and special treatment needed

| | |
|------------------------|------------------------|
| Note to doctors | Treat symptomatically. |
|------------------------|------------------------|

Section 5: Fire-fighting measures**Suitable Extinguishing Media**

| | |
|-------------------------------------|---|
| 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. |
| <u>Specific hazards arising from the chemical</u> | |
| Specific hazards arising from the chemical | No information available. |
| <u>Special protective actions for fire-fighters</u> | |
| Special protective equipment and precautions for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. |

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

| | |
|---------------------------------|---|
| Personal precautions | Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. |
| Other information | Refer to protective measures listed in Sections 7 and 8. |
| For emergency responders | Use personal protection recommended in Section 8. |

Environmental precautions

| | |
|----------------------------------|---|
| Environmental precautions | See Section 12 for additional Ecological Information. |
|----------------------------------|---|

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. |

Precautions to prevent secondary hazards

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

Section 7: Handling and storage

Precautions for safe handling

| | |
|---------------------------------------|---|
| Advice on safe handling | Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. |
| General hygiene considerations | Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. |

Conditions for safe storage, including any incompatibilities

| | |
|-------------------------------|--|
| Storage Conditions | Keep containers tightly closed in a dry, cool and well-ventilated place. For long-term storage, keep the battery at tempratures between 10°C-30°C. |
| Incompatible materials | Metals. |

Section 8: Exposure controls/personal protection

Control parameters

Exposure Limits

| Chemical name | New Zealand | Australia | ACGIH TLV | United Kingdom |
|--------------------------------|--|---|--|--|
| 1,2,3-Propanetriol 56-81-5 | TWA: 10 mg/m ³ | TWA: 10 mg/m ³ | - | TWA: 10 mg/m ³ STEL: 30 mg/m ³ |
| Sodium azide 26628-22-8 | Ceiling: 0.11 ppm Ceiling: 0.29 mg/m ³ | Peak: 0.11 ppm Peak: 0.3 mg/m ³ | Ceiling: 0.29 mg/m ³ Sodium azide Ceiling: 0.11 ppm Hydrazoic acid vapor | TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³ Sk* |
| Hydrochloric acid 7647-01-0 | Ceiling: 5 ppm Ceiling: 7.5 mg/m ³ | Peak: 5 ppm Peak: 7.5 mg/m ³ | Ceiling: 2 ppm | TWA: 1 ppm TWA: 2 mg/m ³ STEL: 5 ppm STEL: 8 mg/m ³ |

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls**Engineering controls**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Hand protection

Wear suitable gloves.

Skin and body protection

Wear suitable protective clothing.

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

No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

| | |
|-----------------|--------------------------|
| Physical state | Liquid |
| Appearance | aqueous solution |
| Colour | blue |
| Odour | Slight. |
| Odour threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---|-------------------|-------------------------|
| pH | 6.8 | |
| Melting point / freezing point | > 0 °C | |
| Initial boiling point and boiling range | > 100 °C | |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapour pressure | No data available | None known |
| Relative vapour density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | Miscible in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |

| | | |
|---------------------------|---------------------------|------------|
| Autoignition temperature | 248 °C | |
| Decomposition temperature | | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Explosive properties | No information available. | |
| Oxidising properties | No information available. | |
| Other information | | |
| Softening point | No information available | |
| Molecular weight | No information available | |
| VOC content | No information available | |
| Liquid Density | No information available | |
| Bulk density | No information available | |
| Particle characteristics | No information available | |

Section 10: Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid None known based on information supplied.

Incompatible materials

Incompatible materials Metals.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

Section 11: Toxicological information

Acute toxicity

Information on likely routes of exposure

Product Information

| | |
|--------------|--|
| Inhalation | Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May be harmful if inhaled. |
| Eye contact | Specific test data for the substance or mixture is not available. Causes serious eye irritation (based on components). May cause redness, itching, and pain. |
| Skin contact | Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation. Causes mild skin irritation. |

| | |
|---------------------------------------|--|
| Ingestion | Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. |
| Symptoms | May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation. |
| Acute toxicity | . |
| Numerical measures of toxicity | |

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

| | |
|--------------------------------------|-----------------|
| ATEmix (oral) | 69,434.00 mg/kg |
| ATEmix (inhalation-dust/mist) | 52.60 mg/l |

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------|-------------------------|-------------------------|-------------------------------|
| 1,2,3-Propanetriol | = 12600 mg/kg (Rat) | > 10 g/kg (Rabbit) | > 2.75 mg/L (Rat) 4 h |
| Sodium azide | = 27 mg/kg (Rat) | = 20 mg/kg (Rabbit) | 0.054 - 0.52 mg/L (Rat) 4 h |
| Hydrochloric acid | 238 - 277 mg/kg (Rat) | > 5010 mg/kg (Rabbit) | = 1.68 mg/L (Rat) 1 h |

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

| | |
|--|--|
| Skin corrosion/irritation | Classification based on data available for ingredients. Causes mild skin irritation. |
| Serious eye damage/eye irritation | Classification based on data available for ingredients. Causes serious eye irritation. |
| Respiratory or skin sensitisation | No information available. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | No information available. |

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | New Zealand | IARC |
|-------------------------------|-------------|---------|
| Hydrochloric acid - 7647-01-0 | - | Group 3 |

Legend

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

| | |
|---|---|
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Aspiration hazard | No information available. |
| Data used to identify the health effects | Refer to Section 16 for Key literature references and sources for data used to compile the SDS. |

Section 12: Ecological information

Ecotoxicity

Aquatic ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

| Chemical name | Algae/aquatic plants | Fish | Crustacea |
|--------------------|----------------------|--|-----------|
| 1,2,3-Propanetriol | - | LC50: 51 - 57mL/L (96h, <i>Oncorhynchus mykiss</i>) | - |
| Sodium azide | - | LC50: =0.8mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.7mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =5.46mg/L (96h, <i>Pimephales promelas</i>) | - |

Terrestrial ecotoxicity There is no data for this product.

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation

Component Information

| Chemical name | Partition coefficient |
|--------------------|-----------------------|
| 1,2,3-Propanetriol | -1.75 |

Mobility in soil

Mobility No information available.

Other adverse effects

No information available.

Section 13: Disposal considerations

Disposal methods

Waste from residues/unused products

Dispose of product in packaging in a way that is consistent with the EPA Consolidation 30 April 2021 of the Hazardous Substances (Disposal) Notice 2017 and the Act.

Treat the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance; or export the substance from New Zealand as waste.

Substances which are hazardous to human health or corrosive to metals – may be discharged into the environment if a tolerable exposure limit has been set for the substance (or a component of that substance); and the discharge does not, after reasonable mixing, result in the concentration of the substance in an environmental medium exceeding the tolerable exposure limit. If there is no tolerable exposure limit for the substance, then it may only be discharged into the environment if the substance is very rapidly converted to substances that are not hazardous substances.

Environmentally hazardous substances – if the substance, or if it contains a component that is hazardous to the aquatic environment or bioaccumulative and not rapidly degradable, then any component that is bioaccumulative and not rapidly degradable must be removed. The product may only be discharged into the environment if an environmental exposure limit

has been set for the substance (or a component of the substance); and the discharge does not, after reasonable mixing, result in the concentration of the substance in an environmental medium exceeding the environmental exposure limit.

Contaminated packaging

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from.

Packages may only be reused or recycled if:

- the substance has a physical hazard other than corrosive to metal, and has been treated to remove any residual contents of the hazardous substance;
- or for substances that have a health or environmental hazard, or corrosive to metal, the contents of the residue in the package are below the threshold for the substance to be classified as hazardous in the Hazardous Substances (Hazard Classification) Notice 2020.

Section 14: Transport information

IATA

Not regulated

IMDG

Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code

No information available

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information

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

EPA New Zealand HSNO approval code or group standard To be determined

National regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

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

International Inventories

NZIoC
TSCA

Contact supplier for inventory compliance status.
Contact supplier for inventory compliance status.

| | |
|----------------------|---|
| 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. |

Legend:**NZIoC** - New Zealand Inventory of Chemicals**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**Section 16: Other information****Revision date** 29-Nov-2023**Revision Note** Reformatted and updated existing information.**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|----------------|-----------------------------|-------------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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)

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

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