# KIT SAFETY DATA SHEET

**Kit Product Name** Cloning & Sequencing Explorer Series Kit

**Kit Catalogue Number(s)** 1665000, 1665000EDU

**Revision date** 05-Apr-2022

## Kit Contents

| Catalogue Number(s) | Product Name |
|---|---|
| 8006877 | Nuclease-Free Water |
| 1451083, 9703463 | Sterile Water |
| 10012354 | C-Growth Medium |
| 10013652, 10011355 | Nucleic Acid Extraction Module Lysis Buffer |
| 10011357 | Initial GAPDH PCR Primers |
| 10011358 | Nested GAPDH PCR Primers |
| 10011359 | Exonuclease |
| 10011360 | 5X Arabidopsis Genomic DNA |
| 10011361 | pGAP Control for PCR |
| 10012350 | T4 DNA Ligase |
| 10012351 | pJet1.2 Blunted Vector |
| 10012352 | Bgl II Enzyme |
| 10012353 | 10X Bgl II Reaction Buffer |
| 10014108 | pJet SEQ F Sequencing Primer |
| 10014109 | pJet SEQ R Sequencing Primer |
| 10014110 | GAP SEQ F Sequencing Primer |
| 10014111 | GAP SEQ R Sequencing Primer |
| 10011395 | pGAP Control for Sequencing |
| 10028135, 9703066, 9702336 | Lysis Solution |
| 10028134, 9703067, 9702335 | Cell Resuspension Solution |
| 1660600, 1660403EDU, 1660600EDU, 1660472EDU, 1660472 | LB Nutrient Agar Powder |
| 1613100, 1613101, 1613102, 1613100EDU, 1613101EDU, 1613102EDU | Certified Molecular Biology Agarose |
| 1660407, 1660407EDU, 9702928 | Ampicillin, lyophilized |
| 10013895 | 2x Ligation Reaction Buffer |
| 10012338 | DNA Blunting Enzyme |
| 10012355 | Transformation Reagent A |
| 10012356 | Transformation Reagent B |
| 1610743, 1610773, 1660742, 1610773EDU, 1610743EDU, 1660742EDU, 9703685 | 50X Tris/Acetic Acid/EDTA Buffer |
| 1610610, 1610611, 1610610EDU, 1610611EDU, 10013901 | Dithiothreitol (DTT) |
| 10028897, 1665111, 10032074, 1665112, 1665111EDU, 1665112EDU | UView 6X Loading Dye |
| 1660412, 1660412EDU, 10011390 | LB Broth, Capsules |
| 9704330, 9704329, 7326804 | Aurum Low-Stringency Wash Buffer |
| 9703804 | Aurum Neutralization Solution |
| 10013088 | IPTG Solution |
| 9703808 | Wash Solution 5X / Wash Solution |
| 9703805 | Elution Solution |
| 10007984, 1665009EDU, 1665009 | 2x PCR Master Mix Bottled |
| 1660408, 1660408EDU, 9702924 | E. coli HB101 Lyophilized |
| 10013562 | EDU 500 BP RULER, BOTTLED |

# SAFETY DATA SHEET

**Revision date** 24-Aug-2021 **Revision Number** 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Nuclease-Free Water

**Catalogue Number(s)** 8006877

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Water | 7732-18-5 | 50 - 100 |

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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** 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** clear liquid
**Colour** colourless
**Odour** Odourless.

| | |
|---|---|
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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 |
|---|---|---|---|
| Water | > 90 mL/kg ( Rat ) | - | - |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 24-Aug-2021

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 24-Aug-2021 **Revision Number** 2.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Sterile Water

**Catalogue Number(s)** 1451083, 9703463

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Water | 7732-18-5 | 50 - 100 |

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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** 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** clear liquid
**Colour** colourless
**Odour** Odourless.

**Odour threshold** No information available

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

**Molecular weight** Not applicable

**VOC Content (%)** Not applicable

## 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 |
|---|---|---|---|
| Water | > 90 mL/kg ( Rat ) | - | - |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 24-Aug-2021

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 24-Aug-2021 **Revision Number** 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** C-Growth Medium

**Catalogue Number(s)** 10012354

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Water | 7732-18-5 | 50 - 100 |

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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** 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** | clear liquid |
| **Colour** | colourless |
| **Odour** | Odourless. |

**Odour threshold** No information available

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

**Molecular weight** Not applicable

**VOC Content (%)** Not applicable

## 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 |
|---|---|---|---|
| Water | > 90 mL/kg ( Rat ) | - | - |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 24-Aug-2021

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 10-Feb-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Nucleic Acid Extraction Module Lysis Buffer

**Catalogue Number(s)** 10013652, 10011355

**Other means of identification**

**Proper shipping name** CORROSIVE LIQUID, N.O.S. (Thiocyanic acid, compound with guanidine (1:1))

**UN number** UN1760

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Corrosive to metals** | Category 1 (HSNO - 8.1A) |
| **Acute toxicity - Oral** | Category 4 (HSNO - 6.1D) |
| **Acute toxicity - Inhalation (Dusts/Mists)** | Category 4 (HSNO - 6.1D) |
| **Skin corrosion/irritation** | Category 1 Sub-category C (HSNO - 8.2C) |
| **Serious eye damage/eye irritation** | Category 1 (HSNO - 8.3A) |
| **Acute aquatic toxicity** | Category 3 (HSNO - 9.1D) |
| **Chronic aquatic toxicity** | Category 3 (HSNO - 9.1C) |

**Label elements**

**Signal word**
Danger

**Hazard statements**
H290 - May be corrosive to metals
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H332 - Harmful if inhaled
H412 - Harmful to aquatic life with long lasting effects

**Precautionary Statements - Prevention**
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapours/spray
Wear protective gloves/protective clothing/eye protection/face protection
Avoid release to the environment
Keep only in original packaging

**Precautionary Statements - Response**
Immediately call a POISON CENTRE or doctor

**Eyes**
Immediately call a POISON CENTRE or doctor
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Skin**
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]
Wash contaminated clothing before reuse

**Inhalation**
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTRE or doctor if you feel unwell
Immediately call a POISON CENTRE or doctor

**Ingestion**
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
Rinse mouth
IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Spill**
Absorb spillage to prevent material damage

**Precautionary Statements - Storage**
Store in corrosion resistant container with a resistant inner liner

**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**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Thiocyanic acid, compound with guanidine (1:1) | 593-84-0 | 35 - 50 |

| | | |
|---|---|---|
| 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. Immediate medical attention is required.

**Inhalation** Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.

**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 immediate medical advice/attention.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

**Ingestion** Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.

**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing vapours or mists. Use personal protective equipment as required. See section 8 for more information.

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

**Symptoms** Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

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

**Note to doctors** Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

**Special protective actions for fire-fighters**

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

## 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. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing vapours or mists. |
| **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. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains. |

**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. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Avoid breathing vapours or mists. |
| **General hygiene considerations** | Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. |

**Conditions for safe storage, including any incompatibilities**

| | |
|---|---|
| **Storage Conditions** | Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials. Store according to product and label instructions. |
| **Incompatible materials** | Oxidising agent. Acids. Bases. |

## 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** | This product, as supplied, does not contain any hazardous materials with biological limits |

| | |
|---|---|
| **limits** | established by the region specific regulatory bodies. |

**Appropriate engineering controls**

| | |
|---|---|
| **Engineering controls** | Showers<br>Eyewash stations<br>Ventilation systems. |

**Individual protection measures, such as personal protective equipment**

| | |
|---|---|
| **Eye/face protection** | Tight sealing safety goggles. Face protection shield. |
| **Hand protection** | Wear suitable gloves. Impervious gloves. |
| **Skin and body protection** | Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. |
| **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 |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | > 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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** Exposure to air or moisture over prolonged periods. Excessive heat.

**Incompatible materials**

**Incompatible materials** Oxidising agent. Acids. Bases.

**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. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Harmful by inhalation.

**Eye contact** Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.

**Skin contact** Prolonged skin contact causes burns. Symptoms may be delayed. Specific test data for the substance or mixture is not available. May cause irritation.

**Ingestion** Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Acute toxicity**

**Numerical measures of toxicity**

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

| | |
|---|---|
| **ATEmix (oral)** | 747.90 mg/kg |
| **ATEmix (inhalation-dust/mist)** | 3.17 mg/l |

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

| | |
|---|---|
| **Skin corrosion/irritation** | Prolonged skin contact causes burns. |
| **Serious eye damage/eye irritation** | Causes burns. Classification based on data available for ingredients. Risk of serious damage to eyes. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

| | |
|---|---|
| **Ecotoxicity** | Harmful to aquatic life with long lasting effects. |

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | No information available. |

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## SECTION 14: Transport information

**IATA**

| | |
|---|---|
| **UN number or ID number** | UN1760 |
| **UN proper shipping name** | Corrosive liquid, n.o.s. (Thiocyanic acid, compound with guanidine (1:1)) |
| **Transport hazard class(es)** | 8 |
| **Packing group** | III |
| **ERG Code** | 8L |
| **Special Provisions** | A3, A803 |
| **Description** | UN1760, Corrosive liquid, n.o.s. (Thiocyanic acid, compound with guanidine (1:1)), 8, III |

**IMDG**

| | |
|---|---|
| **UN number or ID number** | UN1760 |
| **UN proper shipping name** | CORROSIVE LIQUID, N.O.S. (Thiocyanic acid, compound with guanidine (1:1)) |
| **Transport hazard class(es)** | 8 |
| **Packing group** | III |
| **EmS-No** | F-A, S-B |
| **Special Provisions** | 274, 223 |
| **Marine pollutant** | NP |
| **Description** | UN1760, CORROSIVE LIQUID, N.O.S. (THIOCYANIC ACID, COMPOUND WITH GUANIDINE (1:1)), 8, III |

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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| Thiocyanic acid, compound with guanidine (1:1) - 593-84-0 | 6.1D (All),6.1D (O),6.1D (D),6.1D (I),9.3C |

**National regulations**

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class

6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 10-Feb-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 03-Jan-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Initial GAPDH PCR Primers

**Catalogue Number(s)** 10011357

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 8 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 03-Jan-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision date** 03-Jan-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Nested GAPDH PCR Primers

**Catalogue Number(s)** 10011358

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 8 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 03-Jan-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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**

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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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision date** 03-Jan-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Exonuclease

**Catalogue Number(s)** 10011359

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Acute aquatic toxicity** | Category 3 (HSNO - 9.1D) |

**Label elements**

**Hazard statements**
H402 - Harmful to aquatic life

**Precautionary Statements - Prevention**
Avoid release to the environment

**Precautionary Statements - Response**

**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**
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**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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 | ACGIH TLV | United Kingdom | Australia |
|---|---|---|---|---|
| 1,2,3-Propanetriol<br>56-81-5 | TWA: 10 mg/m$^3$ | | TWA: 10 mg/m$^3$<br>STEL: 30 mg/m$^3$ | 10 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7.5 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | > 100 °C | |
| **Flash point** | > 160 °C | |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity** Harmful to aquatic life.

**Aquatic ecotoxicity**

**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 ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

| Chemical name | Partition coefficient |
|---|---|
| 1,2,3-Propanetriol | -1.76 |

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

| | |
|---|---|
| **National regulations** | See Section 8 for any applicable tolerable exposure limits and environmental exposure limits |
| **Certified handlers, tracking and controlled substance license requirements** | Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information<br>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<br>Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information |
| **EPA New Zealand HSNO approval code or group standard** | Not applicable |

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

| | |
|---|---|
| **Prepared By** | Bio-Rad Laboratories, Environmental Health and Safety |
| **Revision date** | 03-Jan-2022 |
| **Revision Note** | Significant changes throughout SDS. Review all sections. |

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 02-Jan-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** 5X Arabidopsis Genomic DNA

**Catalogue Number(s)** 10011360

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 8.3 | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 02-Jan-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 03-Jan-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** pGAP Control for PCR

**Catalogue Number(s)** 10011361

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 8.3 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 03-Jan-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 25-Mar-2022 **Revision Number** 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** T4 DNA Ligase

**Catalogue Number(s)** 10012350

**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**

| Corporate Headquarters | Manufacturer | Legal Entity / Contact Address |
|---|---|---|
| Bio-Rad Laboratories Inc.<br>1000 Alfred Nobel Drive<br>Hercules, CA 94547<br>USA | Bio-Rad Laboratories, Life Science Group<br>2000 Alfred Nobel Drive<br>Hercules, California 94547<br>USA | Bio-Rad Laboratories Pty Ltd<br>189 Bush Road<br>Albany Auckland<br>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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Acute aquatic toxicity** | Category 3 (HSNO - 9.1D) |

**Label elements**

**Hazard statements**
H402 - Harmful to aquatic life

**Precautionary Statements - Prevention**
Avoid release to the environment

**Precautionary Statements - Response**

**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**

## 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**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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 | ACGIH TLV | United Kingdom | Australia |
|---|---|---|---|---|
| 1,2,3-Propanetriol<br>56-81-5 | TWA: 10 mg/m$^3$ | | TWA: 10 mg/m$^3$<br>STEL: 30 mg/m$^3$ | 10 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7.5 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | > 100 °C | |
| **Flash point** | > 160 °C | |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | 392.78 | None known |
| **Decomposition temperature** | | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |
| **Explosive properties** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity** Harmful to aquatic life.

**Aquatic ecotoxicity**

**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 ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

| Chemical name | Partition coefficient |
|---|---|
| 1,2,3-Propanetriol | -1.76 |

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

| | |
|---|---|
| **National regulations** | See Section 8 for any applicable tolerable exposure limits and environmental exposure limits |
| **Certified handlers, tracking and controlled substance license requirements** | Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information<br>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<br>Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information |
| **EPA New Zealand HSNO approval code or group standard** | Not applicable |

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

| | |
|---|---|
| **Prepared By** | Bio-Rad Laboratories, Environmental Health and Safety |
| **Revision date** | 25-Mar-2022 |
| **Revision Note** | Reviewed existing information and made minor updates. |

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 03-Jan-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** pJet1.2 Blunted Vector

**Catalogue Number(s)** 10012351

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 7.5 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 03-Jan-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 24-Mar-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** BgI II Enzyme

**Catalogue Number(s)** 10012352

**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**

| **Corporate Headquarters** | **Manufacturer** | **Legal Entity / Contact Address** |
|---|---|---|
| Bio-Rad Laboratories Inc.<br>1000 Alfred Nobel Drive<br>Hercules, CA 94547<br>USA | Bio-Rad Laboratories, Life Science Group<br>2000 Alfred Nobel Drive<br>Hercules, California 94547<br>USA | Bio-Rad Laboratories Pty Ltd<br>189 Bush Road<br>Albany Auckland<br>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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Acute aquatic toxicity** | Category 3 (HSNO - 9.1D) |

**Label elements**

**Hazard statements**
H402 - Harmful to aquatic life

**Precautionary Statements - Prevention**
Avoid release to the environment

**Precautionary Statements - Response**

**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**
Contains animal source material (Cattle)

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| 1,2,3-Propanetriol | 56-81-5 | 35 - 50 |
| Sodium chloride | 7647-14-5 | 1 - 2.5 |

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

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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 | ACGIH TLV | United Kingdom | Australia |
|---|---|---|---|---|
| 1,2,3-Propanetriol<br>56-81-5 | TWA: 10 mg/m$^3$ | | TWA: 10 mg/m$^3$<br>STEL: 30 mg/m$^3$ | 10 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7.3 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | > 100 °C | |
| **Flash point** | 160 °C | |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | 392.78 | None known |
| **Decomposition temperature** | | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |
| **Explosive properties** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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 |
| Sodium chloride | = 3 g/kg ( Rat ) | > 10000 mg/kg ( Rabbit ) | > 42 mg/L ( Rat ) 1 h |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity** Harmful to aquatic life.

**Aquatic ecotoxicity**

**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) | - |
| Sodium chloride | - | LC50: 4747 - 7824mg/L (96h, Oncorhynchus mykiss)<br>LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus)<br>LC50: 6020 - 7070mg/L (96h, Pimephales promelas)<br>LC50: 6420 - 6700mg/L (96h, Pimephales promelas)<br>LC50: =12946mg/L (96h, Lepomis macrochirus)<br>LC50: =7050mg/L (96h, Pimephales promelas) | EC50: 340.7 - 469.2mg/L (48h, Daphnia magna)<br>EC50: =1000mg/L (48h, Daphnia magna) |

**Terrestrial ecotoxicty**

| Chemical name | Earthworm | Avian | Honeybees |
|---|---|---|---|
| Sodium chloride | Acute Toxicity: LC50 0.1 - 1 mg/cm2 (Eisenia foetida, 48 h filter paper) | - | - |

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

| Chemical name | Partition coefficient |
|---|---|
| 1,2,3-Propanetriol | -1.76 |

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| Sodium chloride - 7647-14-5 | 6.1E (All),6.1E (O),6.4A |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 24-Mar-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision date** 24-Mar-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** 10X BgI II Reaction Buffer

**Catalogue Number(s)** 10012353

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 7.9 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity**

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 24-Mar-2022

**Revision Note** Reviewed existing information and made minor updates.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 04-Apr-2022 **Revision Number** 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** pJet SEQ F Sequencing Primer

**Catalogue Number(s)** 10014108

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 8 | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 04-Apr-2022

**Revision Note** SDS sections updated. 1.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 04-Apr-2022 **Revision Number** 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** pJet SEQ R Sequencing Primer

**Catalogue Number(s)** 10014109

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 8 | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 04-Apr-2022

**Revision Note** SDS sections updated. 1.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 04-Apr-2022 **Revision Number** 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** GAP SEQ F Sequencing Primer

**Catalogue Number(s)** 10014110

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 8 | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 04-Apr-2022

**Revision Note** SDS sections updated. 1.

**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**
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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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision date** 04-Apr-2022 **Revision Number** 1.2

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** GAP SEQ R Sequencing Primer

**Catalogue Number(s)** 10014111

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 8 | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information
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**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 04-Apr-2022

**Revision Note** SDS sections updated. 1.

**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 | | |

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U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision date** 04-Jan-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** pGAP Control for Sequencing

**Catalogue Number(s)** 10011395

**Other means of identification**

**CAS No** 7732-18-5

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 8 | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 04-Jan-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 06-Apr-2021 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Lysis Solution

**Catalogue Number(s)** 10028135, 9703066, 9702336

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Skin corrosion/irritation** | Category 2 (HSNO - 6.3A) |
| **Serious eye damage/eye irritation** | Category 2 (HSNO - 6.4A) |

**Label elements**

**Signal word**
Warning

**Hazard statements**
H315 - Causes skin irritation
H319 - Causes serious eye irritation

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

Wear protective gloves/protective clothing/eye protection/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

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Water | 7732-18-5 | 50 - 100 |
| Sodium lauryl sulfate | 151-21-3 | 1 - 2.5 |
| Sodium hydroxide | 1310-73-2 | 0.3 - 0.999 |
| 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. Get medical attention immediately if symptoms occur.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

**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** Clean mouth with water and drink afterwards plenty of water. 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.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## 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. Store according to product and label instructions.

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

## SECTION 8: Exposure controls/personal protection

**Control parameters**

**Exposure Limits**

| Chemical name | New Zealand | ACGIH TLV | United Kingdom | Australia |
|---|---|---|---|---|
| Sodium hydroxide<br>1310-73-2 | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ | STEL: 2 mg/m³ | 2 mg/m³ Peak |

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

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 12.5-13.5 | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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 | None known |
| **Decomposition temperature** | | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |

| | |
|---|---|
| **Explosive properties** | Not applicable. |
| **Oxidising properties** | Not applicable. |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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. Irritating to eyes. (based on components). Causes serious eye irritation. |
| **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. |
| **Symptoms** | Redness. May cause redness and tearing of the eyes. |

**Acute toxicity**

**Numerical measures of toxicity**

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

**ATEmix (dermal)** 20,000.00 mg/kg
**ATEmix (inhalation-dust/mist)** 97.60 mg/l

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Water | > 90 mL/kg ( Rat ) | - | - |
| Sodium lauryl sulfate | = 1288 mg/kg ( Rat ) | = 200 mg/kg ( Rabbit ) | > 3900 mg/m³ ( Rat ) 1 h |
| Sodium hydroxide | = 325 mg/kg ( Rat ) | = 1350 mg/kg ( Rabbit ) | - |

**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. Irritating to skin.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity**

**Aquatic ecotoxicity**

**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 |
|---|---|---|---|
| Sodium lauryl sulfate | EC50: 3.59 - 15.6mg/L (96h, Pseudokirchneriella subcapitata)<br>EC50: 30 - 100mg/L (96h, Desmodesmus subspicatus)<br>EC50: =117mg/L (96h, Pseudokirchneriella subcapitata)<br>EC50: =53mg/L (72h, Desmodesmus subspicatus) | LC50: 10.2 - 22.5mg/L (96h, Pimephales promelas)<br>LC50: 10.8 - 16.6mg/L (96h, Poecilia reticulata)<br>LC50: 13.5 - 18.3mg/L (96h, Poecilia reticulata)<br>LC50: 15 - 18.9mg/L (96h, Pimephales promelas)<br>LC50: 22.1 - 22.8mg/L (96h, Pimephales promelas)<br>LC50: 4.06 - 5.75mg/L (96h, Lepomis macrochirus)<br>LC50: 4.2 - 4.8mg/L (96h, Lepomis macrochirus)<br>LC50: 4.3 - 8.5mg/L (96h, | EC50: =1.8mg/L (48h, Daphnia magna) |

| | | | |
|---|---|---|---|
| | | Oncorhynchus mykiss)<br>LC50: 5.8 - 7.5mg/L (96h, Pimephales promelas)<br>LC50: 6.2 - 9.6mg/L (96h, Pimephales promelas)<br>LC50: 8 - 12.5mg/L (96h, Pimephales promelas)<br>LC50: 9.9 - 20.1mg/L (96h, Brachydanio rerio)<br>LC50: =1.31mg/L (96h, Cyprinus carpio)<br>LC50: =4.2mg/L (96h, Oncorhynchus mykiss)<br>LC50: =4.5mg/L (96h, Lepomis macrochirus)<br>LC50: =4.62mg/L (96h, Oncorhynchus mykiss)<br>LC50: =7.97mg/L (96h, Brachydanio rerio) | |
| Sodium hydroxide | - | LC50: =45.4mg/L (96h, Oncorhynchus mykiss) | - |

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

| Chemical name | Partition coefficient |
|---|---|
| Sodium lauryl sulfate | 1.6 |

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| Sodium lauryl sulfate - 151-21-3 | 6.1C (D),6.1C (All),6.1D (O),6.3B,6.4A,9.1D (All),9.1D (F),9.1D (C),9.1D (A),9.2D,9.3C<br>6.1D (All),6.1D (D),6.3B,6.4A,9.1D (All),9.1D (F),9.1D (C),9.1D (A),9.2D,9.3C<br>6.1E (All),6.1E (D) |
| Sodium hydroxide - 1310-73-2 | 6.1D (All),6.1D (O),6.1D (D),8.1A,8.2B,8.3A,9.1D (All),9.1D (F),9.1D (C),9.3C<br>6.1D (All),6.1D (O),6.1E (D),8.1A,8.2B,8.3A,9.1D (All),9.1D (F),9.1D (C)<br>6.1E (All),6.1E (O),6.3A,6.4A<br>6.1E (All),6.1E (O),8.1A,8.2C,8.3A |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 06-Apr-2021

**Revision Note** Reviewed existing information and made minor updates.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 06-Apr-2021 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Cell Resuspension Solution

**Catalogue Number(s)** 10028134, 9703067, 9702335

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Water | 7732-18-5 | 50 - 100 |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)- | 77-86-1 | 0.3 - 0.999 |
| Tetrasodium EDTA | 64-02-8 | 0.3 - 0.999 |
| Nuclease, ribo- | 9001-99-4 | < 0.001 |

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

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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<br>Eyewash stations<br>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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7.5-8.5 | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Water | > 90 mL/kg ( Rat ) | - | - |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)- | = 5900 mg/kg ( Rat ) | > 5000 mg/kg ( Rat ) | - |
| Tetrasodium EDTA | = 1658 mg/kg ( Rat ) | - | - |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity**

**Aquatic ecotoxicity**

**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 |
|---|---|---|---|
| Tetrasodium EDTA | EC50: =1.01mg/L (72h, Desmodesmus subspicatus) | LC50: =41mg/L (96h, Lepomis macrochirus)<br>LC50: =59.8mg/L (96h, Pimephales promelas) | - |

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|

| | |
|---|---|
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)- - 77-86-1 | 6.1E (I),6.3A,6.4A |
| Tetrasodium EDTA - 64-02-8 | 6.1D (All),6.1D (O),6.4A,9.3C<br>6.1E (All),6.1E (O),6.4A |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 06-Apr-2021

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 19-Jan-2022 **Revision Number** 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** LB Nutrient Agar Powder

**Catalogue Number(s)** 1660600, 1660403EDU, 1660600EDU, 1660472EDU, 1660472

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Sodium chloride | 7647-14-5 | 20 - 35 |

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

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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** 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** Solid
**Appearance** Powder
**Colour** white
**Odour** Odourless.

**Odour threshold** No information available

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | | None known |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | No data available | None known |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

**Molecular weight** Not applicable

**VOC Content (%)** Not applicable

## 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**
**ATEmix (oral)** 5,398.20 mg/kg

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Sodium chloride | = 3 g/kg ( Rat ) | > 10000 mg/kg ( Rabbit ) | > 42 mg/L ( Rat ) 1 h |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity**

**Aquatic ecotoxicity**

**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 |
|---|---|---|---|
| Sodium chloride | - | LC50: 4747 - 7824mg/L (96h, Oncorhynchus mykiss)<br>LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus)<br>LC50: 6020 - 7070mg/L (96h, Pimephales promelas)<br>LC50: 6420 - 6700mg/L (96h, Pimephales promelas)<br>LC50: =12946mg/L (96h, Lepomis macrochirus)<br>LC50: =7050mg/L (96h, Pimephales promelas) | EC50: 340.7 - 469.2mg/L (48h, Daphnia magna)<br>EC50: =1000mg/L (48h, Daphnia magna) |

**Terrestrial ecotoxicty**

| Chemical name | Earthworm | Avian | Honeybees |
|---|---|---|---|
| Sodium chloride | Acute Toxicity: LC50 0.1 - 1 mg/cm2 (Eisenia foetida, 48 h filter paper) | - | - |

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| Sodium chloride - 7647-14-5 | 6.1E (All),6.1E (O),6.4A |

| | |
|---|---|
| **National regulations** | See Section 8 for any applicable tolerable exposure limits and environmental exposure limits |
| **Certified handlers, tracking and controlled substance license requirements** | Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information<br>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<br>Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information |
| **EPA New Zealand HSNO approval code or group standard** | Not applicable |

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

| | |
|---|---|
| **Prepared By** | Bio-Rad Laboratories, Environmental Health and Safety |
| **Revision date** | 19-Jan-2022 |
| **Revision Note** | Significant changes throughout SDS. Review all sections. |

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 30-Nov-2021 **Revision Number** 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Certified Molecular Biology Agarose

**Catalogue Number(s)** 1613100, 1613101, 1613102, 1613100EDU, 1613101EDU, 1613102EDU

**Other means of identification**

**CAS No** 9012-36-6

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Agarose | 9012-36-6 | 50 - 100 |

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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** 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** Solid
**Appearance** Powder
**Colour** white
**Odour** Odourless.

**Odour threshold** No information available

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | | None known |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | No data available | None known |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **Vapour density** | No data available | None known |
| **Relative density** | No data available | None known |
| **Water solubility** | Insoluble 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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

**Molecular weight** Not applicable

**VOC Content (%)** Not applicable

## 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**
No information available

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 30-Nov-2021

**Revision Note** SDS sections updated. 1. 2. 3. 9.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

**Disclaimer**
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**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision date** 24-Feb-2021 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Ampicillin, lyophilized

**Catalogue Number(s)** 1660407, 1660407EDU, 9702928

**Other means of identification**

**CAS No** 69-52-3

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Respiratory sensitisation** | Category 1 (HSNO - 6.5A) |
| **Skin sensitisation** | Category 1A |

**Label elements**

**Signal word**
Danger

**Hazard statements**
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

**Precautionary Statements - Prevention**
Avoid breathing dust/fume/gas/mist/vapours/spray
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

**Skin**
IF ON SKIN: Wash with plenty of water and soap
If skin irritation or rash occurs: Get medical advice/attention
Take off all contaminated clothing and wash it before reuse

**Inhalation**
IF INHALED: Remove person to fresh air and keep comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor

**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**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Sodium [2S-[2.alpha.,5.alpha.,6.beta.(S*)]]-6-(aminophenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate | 69-52-3 | 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** May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.

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

**Skin contact** Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor.

**Ingestion** May produce an allergic reaction. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information.

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

**Symptoms** May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.

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

**Note to doctors** May cause sensitisation in susceptible persons. Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** Product is or contains a sensitiser. May cause sensitisation by inhalation and skin contact. May cause sensitisation by skin contact.

**Special protective actions for fire-fighters**

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

## 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. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**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. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash it before reuse.

**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. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. 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** 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** | Solid |
| **Appearance** | crystalline |
| **Colour** | light yellow |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | | None known |
| **Melting point / freezing point** | 240 °C | |
| **Boiling point / boiling range** | No data available | None known |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |

| | | |
|---|---|---|
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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 sensitisation in susceptible persons. (based on components).

**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. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitisation by skin contact.

**Ingestion** Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation".

**Symptoms** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives.

**Acute toxicity**

**Numerical measures of toxicity**

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Sodium [2S-[2.alpha.,5.alpha.,6.beta.(S*)]]-6-(aminophenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate | > 5314 mg/kg ( Rat ) | - | - |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation** May cause sensitisation by inhalation May cause sensitisation by skin contact

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity**

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

| Chemical name | New Zealand | IARC |
|---|---|---|
| Sodium [2S-[2.alpha.,5.alpha.,6.beta.(S*)]]-6-(aminophenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate - 69-52-3 | - | Group 3 |

**Legend**

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

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| Sodium | 6.3A,6.4A,6.5A,6.5B |

| | |
|---|---|
| [2S-[2.alpha.,5.alpha.,6.beta.(S*)]]-6-(aminophenylacetamido)-3, 3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate - 69-52-3 | |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 24-Feb-2021

**Revision Note** SDS sections updated. 1. 2.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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-Mar-2022 **Revision Number** 2

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** 2x Ligation Reaction Buffer

**Catalogue Number(s)** 10013895

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 7 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | No data available | None known |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 12 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 29-Mar-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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-Mar-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** DNA Blunting Enzyme

**Catalogue Number(s)** 10012338

**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**

| Corporate Headquarters | Manufacturer | Legal Entity / Contact Address |
|---|---|---|
| Bio-Rad Laboratories Inc.<br>1000 Alfred Nobel Drive<br>Hercules, CA 94547<br>USA | Bio-Rad Laboratories, Life Science Group<br>2000 Alfred Nobel Drive<br>Hercules, California 94547<br>USA | Bio-Rad Laboratories Pty Ltd<br>189 Bush Road<br>Albany Auckland<br>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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Acute aquatic toxicity** | Category 3 (HSNO - 9.1D) |

**Label elements**

**Hazard statements**
H402 - Harmful to aquatic life

**Precautionary Statements - Prevention**
Avoid release to the environment

**Precautionary Statements - Response**

**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**

## 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**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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 | ACGIH TLV | United Kingdom | Australia |
|---|---|---|---|---|
| 1,2,3-Propanetriol<br>56-81-5 | TWA: 10 mg/m$^3$ | | TWA: 10 mg/m$^3$<br>STEL: 30 mg/m$^3$ | 10 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | No data available | None known |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | 392.78 °C | |
| **Decomposition temperature** | | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |
| **Explosive properties** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity** Harmful to aquatic life.

**Aquatic ecotoxicity**

**Unknown aquatic toxicity** 29.1 % 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 ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

| Chemical name | Partition coefficient |
|---|---|
| 1,2,3-Propanetriol | -1.76 |

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

| | |
|---|---|
| **National regulations** | See Section 8 for any applicable tolerable exposure limits and environmental exposure limits |
| **Certified handlers, tracking and controlled substance license requirements** | Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information<br>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<br>Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information |
| **EPA New Zealand HSNO approval code or group standard** | Not applicable |

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

| | |
|---|---|
| **Prepared By** | Bio-Rad Laboratories, Environmental Health and Safety |
| **Revision date** | 29-Mar-2022 |
| **Revision Note** | Significant changes throughout SDS. Review all sections. |

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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-Mar-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Transformation Reagent A

**Catalogue Number(s)** 10012355

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Manganese chloride (MnCl2), tetrahydrate | 13446-34-9 | 2.5 - 5 |

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

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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 | ACGIH TLV | United Kingdom | Australia |
|---|---|---|---|---|
| Manganese chloride (MnCl2), tetrahydrate 13446-34-9 | TWA: 0.2 mg/m³ TWA: 0.02 mg/m³ | TWA: 0.02 mg/m³ Mn respirable particulate matter TWA: 0.1 mg/m³ Mn inhalable particulate matter | TWA: 0.2 mg/m³ TWA: 0.05 mg/m³ | 1 mg/m³ |

**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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | | None known |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | No data available | None known |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**
**ATEmix (oral)** 16,353.7395 mg/kg

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Manganese chloride (MnCl2), tetrahydrate | = 1484 mg/kg ( Rat ) | - | - |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

**Unknown aquatic toxicity** 45.01 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| Manganese chloride (MnCl2), tetrahydrate - 13446-34-9 | 6.1D (All),6.1D (O),9.3C |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

| | |
|---|---|
| **Certified handlers, tracking and controlled substance license requirements** | Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information<br>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<br>Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information |
| **EPA New Zealand HSNO approval code or group standard** | Not applicable |

**International Inventories**

Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

| | |
|---|---|
| **Prepared By** | Bio-Rad Laboratories, Environmental Health and Safety |
| **Revision date** | 29-Mar-2022 |
| **Revision Note** | Significant changes throughout SDS. Review all sections. |

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision date** 29-Mar-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Transformation Reagent B

**Catalogue Number(s)** 10012356

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Manganese chloride (MnCl2), tetrahydrate | 13446-34-9 | 2.5 - 5 |

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

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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 | ACGIH TLV | United Kingdom | Australia |
|---|---|---|---|---|
| Manganese chloride (MnCl2), tetrahydrate 13446-34-9 | TWA: 0.2 mg/m³ TWA: 0.02 mg/m³ | TWA: 0.02 mg/m³ Mn respirable particulate matter TWA: 0.1 mg/m³ Mn inhalable particulate matter | TWA: 0.2 mg/m³ TWA: 0.05 mg/m³ | 1 mg/m³ |

**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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | | None known |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | No data available | None known |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**
**ATEmix (oral)** 16,353.7395 mg/kg

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Manganese chloride (MnCl2), tetrahydrate | = 1484 mg/kg ( Rat ) | - | - |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

**Unknown aquatic toxicity** 45.01 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| Manganese chloride (MnCl2), tetrahydrate - 13446-34-9 | 6.1D (All),6.1D (O),9.3C |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

| | |
|---|---|
| **Certified handlers, tracking and controlled substance license requirements** | Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information<br>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<br>Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information |
| **EPA New Zealand HSNO approval code or group standard** | Not applicable |

**International Inventories**

Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

| | |
|---|---|
| **Prepared By** | Bio-Rad Laboratories, Environmental Health and Safety |
| **Revision date** | 29-Mar-2022 |
| **Revision Note** | Significant changes throughout SDS. Review all sections. |

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision date** 04-Apr-2022 **Revision Number** 2.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** 50X Tris/Acetic Acid/EDTA Buffer

**Catalogue Number(s)** 1610743, 1610773, 1660742, 1610773EDU, 1610743EDU, 1660742EDU, 9703685

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Sodium acetate | 127-09-3 | 10 - 20 |
| Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt, dihydrate | 6381-92-6 | 1 - 2.5 |

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

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7-8 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

**ATEmix (oral)** 11,575.9186 mg/kg
**ATEmix (dermal)** 16,140.00 mg/kg
**ATEmix (inhalation-dust/mist)** 40.70 mg/l

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Sodium acetate | = 3530 mg/kg ( Rat ) | > 10 g/kg ( Rabbit ) | > 30 g/m$^3$ ( Rat ) 1 h |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity**

**Aquatic ecotoxicity**

**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 |
|---|---|---|---|
| Sodium acetate | - | LC50: >100mg/L (96h, Danio rerio) | EC50: >1000mg/L (48h, Daphnia magna) |

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| Sodium acetate - 127-09-3 | 6.1E (All),6.1E (O),6.4A |

| | |
|---|---|
| Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt, dihydrate - 6381-92-6 | 6.1D (All),6.1D (O),6.3B,6.4A<br>6.1E (All),6.1E (O),6.3B,6.4A |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 04-Apr-2022

**Revision Note** SDS sections updated. 1.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 31-Jan-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Acute toxicity - Oral** | Category 4 (HSNO - 6.1D) |
| **Skin corrosion/irritation** | Category 2 (HSNO - 6.3A) |
| **Serious eye damage/eye irritation** | Category 2A (HSNO - 6.4A) |
| **Acute aquatic toxicity** | Category 2 (HSNO - 9.1D) |

**Label elements**

**Signal word**
Warning

**Hazard statements**
H302 - Harmful if swallowed

H315 - Causes skin irritation
H319 - Causes serious eye irritation
H401 - Toxic to aquatic life

**Precautionary Statements - Prevention**
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid release to the environment
Wear protective gloves/protective clothing/eye protection/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**

## 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. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

**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. Clean mouth with water and drink afterwards plenty of water. 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.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## 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. Store according to product and label instructions. |
| **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<br>Eyewash stations<br>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 |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | | None known |
| **Melting point / freezing point** | 42 °C | |
| **Boiling point / boiling range** | 110 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |

| | | |
|---|---|---|
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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. Irritating to eyes. (based on components). Causes serious eye irritation.

**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.

**Acute toxicity**

**Numerical measures of toxicity**
No information available

**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. Irritating to skin.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity** Toxic to aquatic life.

**Aquatic ecotoxicity**

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| 2,3-Butanediol, 1,4-dimercapto-, (R*,R*)- - 3483-12-3 | 6.1D (All),6.1D (O),6.3A,6.4A,9.3C |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 31-Jan-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

**Disclaimer**

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision date** 08-Apr-2021 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** UView 6X Loading Dye

**Catalogue Number(s)** 10028897, 1665111, 10032074, 1665112, 1665111EDU, 1665112EDU

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Acute aquatic toxicity** | Category 3 (HSNO - 9.1D) |

**Label elements**

**Hazard statements**
H402 - Harmful to aquatic life

**Precautionary Statements - Prevention**
Avoid release to the environment

**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**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Water | 7732-18-5 | 50 - 100 |
| 1,2,3-Propanetriol | 56-81-5 | 20 - 35 |
| Phenol, 4,4-(3H-2,1-benzoxathiol-3-ylidene)bis[2,6-dibromo-, S,S-dioxide, monosodium salt | 34725-61-6 | 0.1 - 0.299 |
| 1,3-Benzenedisulfonic acid, 4-[[4-(ethylamino)-3-methylphenyl][4-(ethylimino)-3-methyl-2,5-cyclohexadien-1-ylidene]methyl]-, monosodium salt | 2650-17-1 | 0.1 - 0.299 |

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

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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 | ACGIH TLV | United Kingdom | Australia |
|---|---|---|---|---|
| 1,2,3-Propanetriol<br>56-81-5 | TWA: 10 mg/m³ | | TWA: 10 mg/m³<br>STEL: 30 mg/m³ | 10 mg/m³ |

**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** | dark green |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 4.5-5.5 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | > 100 °C | |
| **Flash point** | 160 °C | |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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 |
|---|---|---|---|
| Water | > 90 mL/kg ( Rat ) | - | - |
| 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** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity** Harmful to aquatic life.

**Aquatic ecotoxicity**

**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 ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

| Chemical name | Partition coefficient |
|---|---|
| 1,2,3-Propanetriol | -1.76 |

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| 1,3-Benzenedisulfonic acid, 4-[[4-(ethylamino)-3-methylphenyl][4-(ethylimino)-3-methyl-2,5-cyclohexadien-1-ylidene]methyl]-, monosodium salt - 2650-17-1 | 6.4A |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 08-Apr-2021

**Revision Note** SDS sections updated. 2. 3.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 08-Mar-2021 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** LB Broth, Capsules

**Catalogue Number(s)** 1660412, 1660412EDU, 10011390

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Acute toxicity - Oral** | Category 5 (HSNO - 6.1E) |

**Label elements**

**Signal word**
Warning

**Hazard statements**
H303 - May be harmful if swallowed

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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** 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** Solid
**Appearance** tablet
**Colour** light brown
**Odour** sweet.

**Odour threshold** No information available

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | | None known |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | No data available | None known |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

**Molecular weight** Not applicable

**VOC Content (%)** Not applicable

## 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** | May be harmful if swallowed. |
| **Symptoms** | No information available. |

**Acute toxicity**

**Numerical measures of toxicity**

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

| | |
|---|---|
| **ATEmix (oral)** | 3,000.00 mg/kg |
| **ATEmix (dermal)** | 10,010.00 mg/kg |

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity**

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class

6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 08-Mar-2021

**Revision Note** SDS sections updated. 1. 2.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 03-Jan-2022 **Revision Number** 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Aurum Low-Stringency Wash Buffer

**Catalogue Number(s)** 9704330, 9704329, 7326804

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 7-8 | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity**

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | 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**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 03-Jan-2022

**Revision Note** SDS sections updated. 2. 3.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 24-Mar-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Aurum Neutralization Solution

**Catalogue Number(s)** 9703804

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Acute toxicity - Oral** | Category 4 (HSNO - 6.1D) |
| **Skin corrosion/irritation** | Category 2 (HSNO - 6.3A) |
| **Serious eye damage/eye irritation** | Category 2A (HSNO - 6.4A) |

**Label elements**

**Signal word**
Warning

**Hazard statements**
H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - 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/protective clothing/eye protection/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**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Guanidine, hydrochloride (1:1) | 50-01-1 | 20 - 35 |
| Potassium acetate | 127-08-2 | 5 - 10 |
| 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. Get medical attention immediately if symptoms occur.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

**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. Clean mouth with water and drink afterwards plenty of water. 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.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## 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. Store according to product and label instructions.

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

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 4.2 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | > 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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. Irritating to eyes. (based on components). Causes serious eye irritation.

**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.

**Acute toxicity**

**Numerical measures of toxicity**

**The following values are calculated based on chapter 3.1 of the GHS document**
**ATEmix (oral)** 1,875.0759 mg/kg

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Guanidine, hydrochloride (1:1) | = 475 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | = 3.181 mg/L ( Rat ) 4 h<br>= 7.655 mg/L ( Rat ) 4 h |
| Potassium acetate | = 3250 mg/kg ( Rat ) | > 20000 mg/kg ( Rabbit ) | - |

**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. Irritating to skin.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

**Ecotoxicity**

**Aquatic ecotoxicity**

**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 |
|---|---|---|---|
| Potassium acetate | - | LC50: =6800mg/L (96h, Oncorhynchus mykiss) | - |

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

| Chemical name | Partition coefficient |
|---|---|
| Guanidine, hydrochloride (1:1) | <=-1.7 |

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| Guanidine, hydrochloride (1:1) - 50-01-1 | 6.1C (D),6.1D (All),6.1D (O),8.2C,8.3A,9.3C |
| Potassium acetate - 127-08-2 | 6.1E (All),6.1E (O) |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at

Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 24-Mar-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 30-Dec-2021 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** IPTG Solution

**Catalogue Number(s)** 10013088

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

| | |
|---|---|
| **Acute toxicity - Oral** | Category 5 (HSNO - 6.1E) |
| **Acute toxicity - Dermal** | Category 5 (HSNO - 6.1E) |

**Label elements**

**Signal word**
Warning

**Hazard statements**
H303 - May be harmful if swallowed
H313 - May be harmful in contact with skin

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|

| Chemical name | CAS No | Weight-% |
|---|---|---|
| .beta.-D-Galactopyranoside, 1-methylethyl 1-thio- | 367-93-1 | 20 - 35 |

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

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | | None known |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | No data available | None known |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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** May be harmful in contact with skin.

**Ingestion** May be harmful if swallowed.

**Symptoms** No information available.

**Acute toxicity**

**Numerical measures of toxicity**

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

| | |
|---|---|
| **ATEmix (oral)** | 2,100.8403 mg/kg |
| **ATEmix (dermal)** | 4,621.80 mg/kg |
| **ATEmix (inhalation-dust/mist)** | 6.30 mg/l |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

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

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| .beta.-D-Galactopyranoside, 1-methylethyl 1-thio- - 367-93-1 | 6.7B |

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

| | |
|---|---|
| **Certified handlers, tracking and controlled substance license requirements** | Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information<br>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<br>Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information |
| **EPA New Zealand HSNO approval code or group standard** | Not applicable |

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

| | |
|---|---|
| **Prepared By** | Bio-Rad Laboratories, Environmental Health and Safety |
| **Revision date** | 30-Dec-2021 |
| **Revision Note** | Significant changes throughout SDS. Review all sections. |

**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)
Japan GHS Classification
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

RTECS (Registry of Toxic Effects of Chemical Substances)
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** 04-Jan-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Wash Solution 5X / Wash Solution

**Catalogue Number(s)** 9703808

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | 7.5 | |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 04-Jan-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 04-Jan-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** Elution Solution

**Catalogue Number(s)** 9703805

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | | None known |
| **Melting point / freezing point** | 0 °C | |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances 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 class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 04-Jan-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 08-Apr-2021 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** 2x PCR Master Mix Bottled

**Catalogue Number(s)** 10007984, 1665009EDU, 1665009

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**
Contains animal source material (Cattle)

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Water | 7732-18-5 | 50 - 100 |
| Magnesium chloride (MgCl2), hexahydrate | 7791-18-6 | 0.1 - 0.299 |
| Trade secret | - | 0.01 - 0.099 |
| Deoxyribonucleic acids | 9007-49-2 | 0.01 - 0.099 |

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

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special 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 thoroughly with water.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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<br>Eyewash stations<br>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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 8-9 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Water | > 90 mL/kg ( Rat ) | - | - |
| Magnesium chloride (MgCl2), hexahydrate | = 8100 mg/kg ( Rat ) | - | - |

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

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.
**Respiratory irritation** Based on available data, the classification criteria are not met.
**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

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

**Terrestrial ecotoxicty** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A,

| | |
|---|---|
| **requirements** | B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information<br>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<br>Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information |
| **EPA New Zealand HSNO approval code or group standard** | Not applicable |

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

| | |
|---|---|
| **Prepared By** | Bio-Rad Laboratories, Environmental Health and Safety |
| **Revision date** | 08-Apr-2021 |
| **Revision Note** | SDS sections updated. 2. 3. |

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 19-Nov-2021 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** E. coli HB101 Lyophilized

**Catalogue Number(s)** 1660408, 1660408EDU, 9702924

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**
Biosafety Level 1 - Agents not known to consistently cause disease in healthy adults and that present minimal potential hazard to laboratory personnel and the environment, are present in this product
Contains human source material and / or potentially infectious components

## SECTION 3: Composition/information on ingredients

| Chemical name | CAS No | Weight-% |
|---|---|---|
| BSL1 Bacteria | NO-CAS-104 | 50 - 100 |

## SECTION 4: First aid measures

**Description of first aid measures**

**General advice** No hazards which require special first aid measures.

**Inhalation** Remove to fresh air.

**Eye contact** Contains human source material and / or potentially infectious components. Call a doctor if irritation persists.

**Skin contact** Wash skin with soap and water.

**Ingestion** Call a doctor. Contains human source material and / or potentially infectious components.

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

**Symptoms** No information available.

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

**Note to doctors** Contains human source material and / or potentially infectious components.

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**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** Do not allow into any sewer, on the ground or into any body of water.

**Methods for cleaning up** Clean contaminated surface thoroughly. Use:. Disinfectant.

**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.

**General hygiene considerations** Follow universal and standard precautions for handling potentially infectious materials.

**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** 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** | light pink |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7.5-8.5 | |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

**Other information**

| | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**
No information available

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

| | |
|---|---|
| **Ecotoxicity** | The environmental impact of this product has not been fully investigated. |
| **Aquatic ecotoxicity** | |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**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 package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## 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

## SECTION 15: Regulatory information

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information
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Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval** Not applicable

**code or group standard**

**International Inventories**
Contact supplier for inventory compliance status

**Legend:**

**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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 19-Nov-2021

**Revision Note** Significant changes throughout SDS. Review all sections.

**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)
Japan GHS Classification
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
RTECS (Registry of Toxic Effects of Chemical Substances)
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** 25-Mar-2022 **Revision Number** 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product Name** EDU 500 BP RULER, BOTTLED

**Catalogue Number(s)** 10013562

**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**

**Corporate Headquarters**
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

**Legal Entity / Contact Address**
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: Hazards identification

**GHS Classification**

Not classified

**Label elements**

**Hazard statements**

**Other hazards which do not result in classification**

## SECTION 3: Composition/information on ingredients

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

## SECTION 4: First aid measures

**Description of first aid measures**

| | |
|---|---|
| **General advice** | No hazards which require special 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 thoroughly with water. |

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

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

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

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

## SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

| | |
|---|---|
| **Specific hazards arising from the chemical** | None known. |

**Special protective actions for fire-fighters**

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

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | See section 8 for more information. |
| **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** 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** | colourless |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | | None known |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | 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 |
| **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** | Not applicable. | |
| **Oxidising properties** | Not applicable. | |

| Other information | |
|---|---|
| **Molecular weight** | Not applicable |
| **VOC Content (%)** | Not applicable |

## 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**

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **Respiratory irritation** | Based on available data, the classification criteria are not met. |
| **Narcotic effects** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |

## SECTION 12: Ecological information

**Ecotoxicity**

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

**Aquatic ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |
| **Terrestrial ecotoxicty** | There is no data for this product. |
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

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International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
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
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