

# KIT SAFETY DATA SHEET



Kit Product Name                      Restriction Digest Kit  
Kit Catalog Number(s)              1660002EDU

Revision date                              25-Apr-2023

## Kit Contents

| Catalog Number(s)  | Product Name                         |
|--|--------------------------------------|
| 1660420, 9704664, 9704659, 1660420EDU                                  | Fast Blast DNA Staining Solution     |
| 10014110   | GAP SEQ F Sequencing Primer          |
| 1613116  | Agarose, Molecular Biology Certified |
| 1610743, 1610773, 1660742, 1610773EDU, 1610743EDU, 1660742EDU, 9703685 | 50X Tris/Acetic Acid/EDTA Buffer     |
| 9702941  | Hind III Lambda Digest DNA Standard  |
| 9702950  | EcoR I Enzyme                        |
| 9702948  | Hind III Enzyme                      |
| 9702947  | Lambda DNA                           |
| 9702949  | Pst I Enzyme                         |
| 9702951  | 2X Restriction Buffer                |
| 1660401, 1660401EDU, 9702945   | Sample Loading Dye                   |



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 08-Feb-2023

Revision Number 1

## 1. Identification

### Product identifier

**Product Name** Fast Blast DNA Staining Solution

### Other means of identification

**Catalog Number(s)** 1660420, 9704664, 9704659, 1660420EDU

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

**Restrictions on use** 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 Address**

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

#### **Legal Entity / Contact Address**

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### **Technical Service**

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified.

### Other information

## 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

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

| Chemical name | CAS No       | Weight-%   | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---------------|--------------|------------|--|---|
| Water         | 7732-18-5    | 50 - 100   | -  |   |
| Trade secret  | Trade secret | 0.3 - 0.99 | -  |   |

**4. First-aid measures****Description of first aid measures**

|                       |  |
|-----------------------|--|
| <b>General advice</b> | No hazards which require special first aid measures.   |
| <b>Inhalation</b>     | Remove to fresh air.   |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.   |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.   |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

**5. Fire-fighting measures**

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>                   | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                            |
| <b>Unsuitable extinguishing media</b>                 | No information available.  |
| <b>Specific hazards arising from the chemical</b>     | None known.  |
| <b>Explosion data</b>                                 |  |
| <b>Sensitivity to mechanical impact</b>               | None.  |
| <b>Sensitivity to static discharge</b>                | None.  |
| <b>Special protective equipment for fire-fighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more 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 labeled containers.

## 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.

## 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.

**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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

|                       |                          |
|-----------------------|--------------------------|
| <b>Physical state</b> | Liquid                   |
| <b>Appearance</b>     | aqueous solution         |
| <b>Color</b>          | blue                     |
| <b>Odor</b>           | Odorless                 |
| <b>Odor threshold</b> | No information available |

| <b><u>Property</u></b> | <b><u>Values</u></b> | <b><u>Remarks • Method</u></b> |
|------------------------|----------------------|--------------------------------|
| pH                     | 7.7                  |                                |

|  |                   |            |
|--|-------------------|------------|
| Melting point / freezing point         | No data available | None known |
| Boiling point / boiling range          | 100 °C / 212 °F   |            |
| 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 |            |
| Vapor pressure                         | No data available | None known |
| Vapor density                          | No data available | None known |
| Relative density                       | No data available | None known |
| Water solubility                       | Miscible in water |            |
| Solubility in other solvents           | 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 |
| <b>Other information</b>               |                   |            |
| Explosive properties                   | Not applicable.   |            |
| Oxidizing properties                   | Not applicable.   |            |
| Softening point                        | Not applicable    |            |
| Molecular weight                       | Not applicable    |            |
| VOC content                            | Not applicable    |            |

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

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

### Symptoms related to the physical, chemical and toxicological characteristics

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

### Acute toxicity

#### Numerical measures of toxicity

| Chemical name      | Oral LD50          | Dermal LD50 | Inhalation LC50 |
|--------------------|--------------------|-------------|-----------------|
| Water<br>7732-18-5 | > 90 mL/kg ( Rat ) | -           | -               |

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

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Based on available data, the classification criteria are not met. |
| <b>Serious eye damage/eye irritation</b> | Based on available data, the classification criteria are not met. |
| <b>Respiratory or skin sensitization</b> | Based on available data, the classification criteria are not met. |
| <b>Germ cell mutagenicity</b>            | Based on available data, the classification criteria are not met. |
| <b>Carcinogenicity</b>                   | Based on available data, the classification criteria are not met. |
| <b>Reproductive toxicity</b>             | Based on available data, the classification criteria are not met. |
| <b>STOT - single exposure</b>            | Based on available data, the classification criteria are not met. |
| <b>STOT - repeated exposure</b>          | Based on available data, the classification criteria are not met. |
| <b>Aspiration hazard</b>                 | Based on available data, the classification criteria are not met. |

**12. Ecological information**

|                                      |   |
|--------------------------------------|---|
| <b>Ecotoxicity</b>                   | The environmental impact of this product has not been fully investigated. |
| <b>Persistence and degradability</b> | No information available.   |
| <b>Bioaccumulation</b>               | No information available.   |
| <b>Other adverse effects</b>         | No information available.   |

**13. Disposal considerations****Waste treatment methods**

|  |   |
|--|---|
| <b>Waste from residues/unused products</b> | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| <b>Contaminated packaging</b>              | Do not reuse empty containers.  |

**14. Transport information**

|                   |               |
|-------------------|---------------|
| <b><u>TDG</u></b> | Not regulated |
| <b><u>DOT</u></b> | Not regulated |
| <b><u>MEX</u></b> | Not regulated |

IATA Not regulated

IMDG Not regulated

## 15. Regulatory information

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. Other information

|             |                  |                |                    |                                    |
|-------------|------------------|----------------|--------------------|------------------------------------|
| <u>NFPA</u> | Health hazards 0 | Flammability 0 | Instability 0      | Physical and chemical properties - |
| <u>HMIS</u> | Health hazards 0 | Flammability 0 | Physical hazards 0 | Personal protection X              |

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

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AELG(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  
 Australia 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)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 RTECS (Registry of Toxic Effects of Chemical Substances)  
 World Health Organization

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

**Revision date** 08-Feb-2023

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

#### **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

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 04-Apr-2022

Revision Number 1.1

## 1. Identification

### Product identifier

Product Name GAP SEQ F Sequencing Primer

### Other means of identification

Catalog Number(s) 10014110

### Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Restrictions on use 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 Address

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### Technical Service

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### Hazard statements

Not classified.

### Other information

## 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

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

| Chemical name  | CAS No      | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|--|-------------|----------|--|---|
| Water  | 7732-18-5   | 50 - 100 | -  |   |
| Oligonucleotide  | 119112-10-6 | < 0.001  | -  |   |
| C.I. Acid Yellow 23  | 1934-21-0   | < 0.001  | -  |   |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-  | 77-86-1     | < 0.001  | -  |   |
| 1,3-Benzenedisulfonic acid, 4-[[4-(ethylamino)-3-methylphenyl][4-(ethylimino)-3-methyl-2,5-cyclohexadien-1-ylidene]methyl]-, monosodium salt | 2650-17-1   | < 0.001  | -  |   |

**4. First-aid measures****Description of first aid measures**

|                       |  |
|-----------------------|--|
| <b>General advice</b> | No hazards which require special first aid measures.   |
| <b>Inhalation</b>     | Remove to fresh air.   |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.   |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.   |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

**5. Fire-fighting measures**

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>                   | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                            |
| <b>Unsuitable extinguishing media</b>                 | No information available.  |
| <b>Specific hazards arising from the chemical</b>     | None known.  |
| <b>Explosion data</b>                                 |  |
| <b>Sensitivity to mechanical impact</b>               | None.  |
| <b>Sensitivity to static discharge</b>                | None.  |
| <b>Special protective equipment for fire-fighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** See section 8 for more 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 labeled containers.

## 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.

## 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.

### 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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

**Physical state** Liquid  
**Appearance** aqueous solution

|                |                          |
|----------------|--------------------------|
| Color          | colorless                |
| Odor           | Odorless                 |
| Odor threshold | No information available |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     | 8                 |                         |
| Melting point / freezing point         | 0 °C / 32 °F      |                         |
| Boiling point / boiling range          | 100 °C / 212 °F   |                         |
| 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 |                         |
| Vapor pressure                         | No data available | None known              |
| Vapor density                          | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Miscible in water |                         |
| Solubility in other solvents           | 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              |
| <u>Other information</u>               |                   |                         |
| Explosive properties                   | Not applicable.   |                         |
| Oxidizing properties                   | Not applicable.   |                         |
| Softening point                        | Not applicable    |                         |
| Molecular weight                       | Not applicable    |                         |
| VOC content                            | Not applicable    |                         |

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

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

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** No information available.

**Acute toxicity**

**Numerical measures of toxicity**

| Chemical name   | Oral LD50            | Dermal LD50          | Inhalation LC50 |
|---|----------------------|----------------------|-----------------|
| Water<br>7732-18-5  | > 90 mL/kg ( Rat )   | -                    | -               |
| C.I. Acid Yellow 23<br>1934-21-0                          | > 2000 mg/kg ( Rat ) | -                    | -               |
| 1,3-Propanediol,<br>2-amino-2-(hydroxymethyl)-<br>77-86-1 | = 5900 mg/kg ( Rat ) | > 5000 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 sensitization** 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.

**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.

## 12. Ecological information

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

**Persistence and degradability** No information available.

**Bioaccumulation** No information available.

| Chemical name                    | Partition coefficient |
|----------------------------------|-----------------------|
| C.I. Acid Yellow 23<br>1934-21-0 | -1.572                |

**Other adverse effects** No information available.

## 13. Disposal considerations

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

## 14. Transport information

TDG Not regulated

DOT Not regulated

## 15. Regulatory information

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

### International Regulations

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

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

### International Inventories

Contact supplier for inventory compliance status

## 16. Other information

|             |                  |                |                    |   |
|-------------|------------------|----------------|--------------------|---|
| <u>NFPA</u> | Health hazards 0 | Flammability 0 | Instability 0      | Physical and chemical properties -<br>Personal protection X |
| <u>HMIS</u> | Health hazards 0 | Flammability 0 | Physical hazards 0 |   |

### 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                 |

#### **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) (AELG(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  
 Australia 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)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

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

**Revision date** 04-Apr-2022

**Revision Note** Reformatted and updated existing information.

**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

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 30-Nov-2021

Revision Number 1.1

## 1. Identification

### Product identifier

**Product Name** Agarose, Molecular Biology Certified

### Other means of identification

**Catalog Number(s)** 1613116

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

**Restrictions on use** 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 Address**

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

#### **Legal Entity / Contact Address**

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### **Technical Service**

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified.

### Other information

## 3. Composition/information on ingredients



**Substance**

| Chemical name | CAS No    | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---------------|-----------|----------|--|---|
| Agarose       | 9012-36-6 | 50 - 100 | -  |   |

**4. First-aid measures****Description of first aid measures**

|                       |  |
|-----------------------|--|
| <b>General advice</b> | No hazards which require special first aid measures.   |
| <b>Inhalation</b>     | Remove to fresh air.   |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.   |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.   |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

**5. Fire-fighting measures**

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>                   | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                            |
| <b>Unsuitable extinguishing media</b>                 | No information available.  |
| <b>Specific hazards arising from the chemical</b>     | None known.  |
| <b>Explosion data</b>                                 |  |
| <b>Sensitivity to mechanical impact</b>               | None.  |
| <b>Sensitivity to static discharge</b>                | None.  |
| <b>Special protective equipment for fire-fighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

|                             |                                     |
|-----------------------------|-------------------------------------|
| <b>Personal precautions</b> | See section 8 for more information. |
|-----------------------------|-------------------------------------|

**Methods and material for containment and cleaning up**

|                                |   |
|--------------------------------|---|
| <b>Methods for containment</b> | Prevent further leakage or spillage if safe to do so. |
|--------------------------------|---|

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## 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.

## 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.

### 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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

|                       |                          |
|-----------------------|--------------------------|
| <b>Physical state</b> | Solid                    |
| <b>Appearance</b>     | Powder                   |
| <b>Color</b>          | white                    |
| <b>Odor</b>           | Odorless                 |
| <b>Odor threshold</b> | No information available |

| <u>Property</u>                | <u>Values</u>     | <u>Remarks • Method</u> |
|--------------------------------|-------------------|-------------------------|
| pH                             |                   | None known              |
| Melting point / freezing point | No data available | None known              |
| 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  |            |
| Vapor pressure                         | No data available  | None known |
| Vapor density                          | No data available  | None known |
| Relative density                       | No data available  | None known |
| Water solubility                       | Insoluble in water |            |
| Solubility in other solvents           | 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 |

**Other information**

|                      |                 |
|----------------------|-----------------|
| Explosive properties | Not applicable. |
| Oxidizing properties | Not applicable. |
| Softening point      | Not applicable  |
| Molecular weight     | Not applicable  |
| VOC content          | Not applicable  |

**10. Stability and reactivity**

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

**11. Toxicological information****Information on likely routes of exposure****Product Information**

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

**Symptoms related to the physical, chemical and toxicological characteristics**

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

**Acute toxicity****Numerical measures of toxicity**

No information available

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

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Based on available data, the classification criteria are not met. |
| <b>Serious eye damage/eye irritation</b> | Based on available data, the classification criteria are not met. |
| <b>Respiratory or skin sensitization</b> | Based on available data, the classification criteria are not met. |
| <b>Germ cell mutagenicity</b>            | Based on available data, the classification criteria are not met. |
| <b>Carcinogenicity</b>                   | Based on available data, the classification criteria are not met. |
| <b>Reproductive toxicity</b>             | Based on available data, the classification criteria are not met. |
| <b>STOT - single exposure</b>            | Based on available data, the classification criteria are not met. |
| <b>STOT - repeated exposure</b>          | Based on available data, the classification criteria are not met. |
| <b>Aspiration hazard</b>                 | Based on available data, the classification criteria are not met. |

## 12. Ecological information

|                                      |   |
|--------------------------------------|---|
| <b>Ecotoxicity</b>                   | The environmental impact of this product has not been fully investigated. |
| <b>Persistence and degradability</b> | No information available.   |
| <b>Bioaccumulation</b>               | No information available.   |
| <b>Other adverse effects</b>         | No information available.   |

## 13. Disposal considerations

### Waste treatment methods

|  |   |
|--|---|
| <b>Waste from residues/unused products</b> | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| <b>Contaminated packaging</b>              | Do not reuse empty containers.  |

## 14. Transport information

|                    |               |
|--------------------|---------------|
| <b><u>TDG</u></b>  | Not regulated |
| <b><u>DOT</u></b>  | Not regulated |
| <b><u>MEX</u></b>  | Not regulated |
| <b><u>IATA</u></b> | Not regulated |
| <b><u>IMDG</u></b> | Not regulated |

## 15. Regulatory information

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. Other information

|             |                  |                |                    |                                    |
|-------------|------------------|----------------|--------------------|------------------------------------|
| <u>NFPA</u> | Health hazards 0 | Flammability 0 | Instability 0      | Physical and chemical properties - |
| <u>HMIS</u> | Health hazards 0 | Flammability 0 | Physical hazards 0 | Personal protection X              |

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

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AELG(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  
 Australia 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)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 RTECS (Registry of Toxic Effects of Chemical Substances)  
 World Health Organization

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

**Revision date** 30-Nov-2021

**Revision Note** Reformatted and updated existing information.

#### 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

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 04-Apr-2022

Revision Number 2.1

## 1. Identification

### Product identifier

**Product Name** 50X Tris/Acetic Acid/EDTA Buffer

### Other means of identification

**Catalog Number(s)** 1610743, 1610773, 1660742, 1610773EDU, 1610743EDU, 1660742EDU, 9703685

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

**Restrictions on use** 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 Address**

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

#### **Legal Entity / Contact Address**

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### **Technical Service**

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified.

### Other information

## 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

| Chemical name   | CAS No    | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---|-----------|----------|--|---|
| Water   | 7732-18-5 | 50 - 100 | -  |   |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-                                 | 77-86-1   | 20 - 35  | -  |   |
| Sodium acetate  | 127-09-3  | 10 - 20  | -  |   |
| Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt, dihydrate | 6381-92-6 | 1 - 2.5  | -  |   |

**4. First-aid measures****Description of first aid measures**

|                       |  |
|-----------------------|--|
| <b>General advice</b> | No hazards which require special first aid measures.   |
| <b>Inhalation</b>     | Remove to fresh air.   |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.   |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.   |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

**5. Fire-fighting measures**

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>                   | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                            |
| <b>Unsuitable extinguishing media</b>                 | No information available.  |
| <b>Specific hazards arising from the chemical</b>     | None known.  |
| <b>Explosion data</b>                                 |  |
| <b>Sensitivity to mechanical impact</b>               | None.  |
| <b>Sensitivity to static discharge</b>                | None.  |
| <b>Special protective equipment for fire-fighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

**6. Accidental release measures**

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

**Personal precautions** See section 8 for more 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 labeled containers.

**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.

**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.

**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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties****Information on basic physical and chemical properties**

|                       |                          |
|-----------------------|--------------------------|
| <b>Physical state</b> | Liquid                   |
| <b>Appearance</b>     | aqueous solution         |
| <b>Color</b>          | colorless                |
| <b>Odor</b>           | Odorless                 |
| <b>Odor threshold</b> | No information available |



| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     | 7-8               |                         |
| Melting point / freezing point         | No data available | None known              |
| Boiling point / boiling range          | 100 °C / 212 °F   |                         |
| 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 |                         |
| Vapor pressure                         | No data available | None known              |
| Vapor density                          | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Miscible in water |                         |
| Solubility in other solvents           | 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              |
| <u>Other information</u>               |                   |                         |
| Explosive properties                   | Not applicable.   |                         |
| Oxidizing properties                   | Not applicable.   |                         |
| Softening point                        | Not applicable    |                         |
| Molecular weight                       | Not applicable    |                         |
| VOC content                            | Not applicable    |                         |

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

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

### Symptoms related to the physical, chemical and toxicological characteristics

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

#### Acute toxicity

**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                   |
|---|----------------------|----------------------|-----------------------------------|
| Water<br>7732-18-5  | > 90 mL/kg ( Rat )   | -                    | -                                 |
| 1,3-Propanediol,<br>2-amino-2-(hydroxymethyl)-<br>77-86-1 | = 5900 mg/kg ( Rat ) | > 5000 mg/kg ( Rat ) | -                                 |
| Sodium acetate<br>127-09-3                                | = 3530 mg/kg ( Rat ) | > 10 g/kg ( Rabbit ) | > 30 g/m <sup>3</sup> ( Rat ) 1 h |

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

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Based on available data, the classification criteria are not met. |
| <b>Serious eye damage/eye irritation</b> | Based on available data, the classification criteria are not met. |
| <b>Respiratory or skin sensitization</b> | Based on available data, the classification criteria are not met. |
| <b>Germ cell mutagenicity</b>            | Based on available data, the classification criteria are not met. |
| <b>Carcinogenicity</b>                   | Based on available data, the classification criteria are not met. |
| <b>Reproductive toxicity</b>             | Based on available data, the classification criteria are not met. |
| <b>STOT - single exposure</b>            | Based on available data, the classification criteria are not met. |
| <b>STOT - repeated exposure</b>          | Based on available data, the classification criteria are not met. |
| <b>Aspiration hazard</b>                 | Based on available data, the classification criteria are not met. |

**12. Ecological information****Ecotoxicity**

| Chemical name              | Algae/aquatic plants | Fish                                 | Toxicity to microorganisms | Crustacea                               |
|----------------------------|----------------------|--------------------------------------|----------------------------|---|
| Sodium acetate<br>127-09-3 | -                    | LC50: >100mg/L (96h,<br>Danio rerio) | -                          | EC50: >1000mg/L (48h,<br>Daphnia magna) |

|                                      |                           |
|--------------------------------------|---------------------------|
| <b>Persistence and degradability</b> | No information available. |
| <b>Bioaccumulation</b>               | No information available. |
| <b>Other adverse effects</b>         | No information available. |

**13. Disposal considerations****Waste treatment methods**

|                                   |  |
|-----------------------------------|--|
| <b>Waste from residues/unused</b> | Dispose of in accordance with local regulations. Dispose of waste in accordance with |
|-----------------------------------|--|

|                               |                                |
|-------------------------------|--------------------------------|
| <b>products</b>               | environmental legislation.     |
| <b>Contaminated packaging</b> | Do not reuse empty containers. |

## 14. Transport information

|                   |               |
|-------------------|---------------|
| <b><u>TDG</u></b> | Not regulated |
| <b><u>DOT</u></b> | Not regulated |

## 15. Regulatory information

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

#### International Regulations

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

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. Other information

|                    |                         |                       |                           |   |
|--------------------|-------------------------|-----------------------|---------------------------|---|
| <b><u>NFPA</u></b> | <b>Health hazards</b> 1 | <b>Flammability</b> 0 | <b>Instability</b> 0      | <b>Physical and chemical properties -</b> |
| <b><u>HMIS</u></b> | <b>Health hazards</b> 0 | <b>Flammability</b> 0 | <b>Physical hazards</b> 0 | <b>Personal protection</b> X              |

### 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                 |

#### **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  
 Australia 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)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

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

**Revision date** 04-Apr-2022

**Revision Note** Reformatted and updated existing information.

**Disclaimer**

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 30-Aug-2022

Revision Number 2

## 1. Identification

### Product identifier

**Product Name** Hind III Lambda Digest DNA Standard

### Other means of identification

**Catalog Number(s)** 9702941

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

**Restrictions on use** 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 Address**

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

#### **Legal Entity / Contact Address**

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### **Technical Service**

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified.

### Other information

## 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

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

| Chemical name   | CAS No     | Weight-%     | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---|------------|--------------|--|---|
| Water   | 7732-18-5  | 50 - 100     | -  |   |
| Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt, dihydrate | 6381-92-6  | 0.3 - 0.99   | -  |   |
| Sodium chloride   | 7647-14-5  | 0.1 - 0.299  | -  |   |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-                                 | 77-86-1    | 0.1 - 0.299  | -  |   |
| Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate                        | 7791-18-6  | 0.01 - 0.099 | -  |   |
| Deoxyribonucleic acids  | 9007-49-2  | 0.01 - 0.099 | -  |   |
| 2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-                                   | 3483-12-3  | 0.01 - 0.099 | -  |   |
| Nuclease, restriction endodeoxyribo-, HINDIII                               | 81295-22-9 | 0.001 - 0.01 | -  |   |

**4. First-aid measures****Description of first aid measures**

|                       |  |
|-----------------------|--|
| <b>General advice</b> | No hazards which require special first aid measures.   |
| <b>Inhalation</b>     | Remove to fresh air.   |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.   |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.   |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

**5. Fire-fighting measures**

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>               | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| <b>Unsuitable extinguishing media</b>             | No information available.   |
| <b>Specific hazards arising from the chemical</b> | None known.   |
| <b>Explosion data</b>                             |   |
| <b>Sensitivity to mechanical impact</b>           | None.   |
| <b>Sensitivity to static discharge</b>            | None.   |

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

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

|                             |                                     |
|-----------------------------|-------------------------------------|
| <b>Personal precautions</b> | See section 8 for more information. |
|-----------------------------|-------------------------------------|

### Methods and material for containment and cleaning up

|                                |   |
|--------------------------------|---|
| <b>Methods for containment</b> | Prevent further leakage or spillage if safe to do so. |
|--------------------------------|---|

|                                |  |
|--------------------------------|--|
| <b>Methods for cleaning up</b> | Pick up and transfer to properly labeled containers. |
|--------------------------------|--|

## 7. Handling and storage

### Precautions for safe handling

|                                |  |
|--------------------------------|--|
| <b>Advice on safe handling</b> | Handle in accordance with good industrial hygiene and safety practice. |
|--------------------------------|--|

### Conditions for safe storage, including any incompatibilities

|                           |  |
|---------------------------|--|
| <b>Storage Conditions</b> | Store according to product and label instructions. |
|---------------------------|--|

## 8. Exposure controls/personal protection

### Control parameters

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

### Appropriate engineering controls

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

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

|                            |   |
|----------------------------|---|
| <b>Eye/face protection</b> | Wear safety glasses with side shields (or goggles). |
|----------------------------|---|

|                        |                       |
|------------------------|-----------------------|
| <b>Hand protection</b> | Wear suitable gloves. |
|------------------------|-----------------------|

|                                 |                                    |
|---------------------------------|------------------------------------|
| <b>Skin and body protection</b> | Wear suitable protective clothing. |
|---------------------------------|------------------------------------|

|                               |  |
|-------------------------------|--|
| <b>Respiratory protection</b> | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
|-------------------------------|--|

|                                       |  |
|---------------------------------------|--|
| <b>General hygiene considerations</b> | Handle in accordance with good industrial hygiene and safety practice. |
|---------------------------------------|--|

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

|                |                          |
|----------------|--------------------------|
| Physical state | Liquid                   |
| Appearance     | aqueous solution         |
| Color          | colorless                |
| Odor           | Odorless                 |
| Odor threshold | No information available |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     | 8                 |                         |
| Melting point / freezing point         | 0 °C / 32 °F      |                         |
| Boiling point / boiling range          | 100 °C / 212 °F   |                         |
| 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 |                         |
| Vapor pressure                         | No data available | None known              |
| Vapor density                          | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Miscible in water |                         |
| Solubility in other solvents           | 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              |
| <u>Other information</u>               |                   |                         |
| Explosive properties                   | Not applicable.   |                         |
| Oxidizing properties                   | Not applicable.   |                         |
| Softening point                        | Not applicable    |                         |
| Molecular weight                       | Not applicable    |                         |
| VOC content                            | Not applicable    |                         |

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

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



**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** No information available.

**Acute toxicity****Numerical measures of toxicity**

| Chemical name  | Oral LD50            | Dermal LD50              | Inhalation LC50       |
|--|----------------------|--------------------------|-----------------------|
| Water<br>7732-18-5   | > 90 mL/kg ( Rat )   | -                        | -                     |
| Sodium chloride<br>7647-14-5   | = 3 g/kg ( Rat )     | > 10000 mg/kg ( Rabbit ) | > 42 mg/L ( Rat ) 1 h |
| 1,3-Propanediol,<br>2-amino-2-(hydroxymethyl)-<br>77-86-1            | = 5900 mg/kg ( Rat ) | > 5000 mg/kg ( Rat )     | -                     |
| Magnesium chloride (MgCl <sub>2</sub> ),<br>hexahydrate<br>7791-18-6 | = 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.

**Respiratory or skin sensitization** 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.

**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.

**12. Ecological information****Ecotoxicity**

| Chemical name                | Algae/aquatic plants | Fish  | Toxicity to microorganisms | Crustacea  |
|------------------------------|----------------------|---|----------------------------|--|
| Sodium chloride<br>7647-14-5 | -                    | LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus)<br>LC50: =12946mg/L (96h, Lepomis macrochirus)<br>LC50: 6020 - 7070mg/L (96h, Pimephales promelas)<br>LC50: =7050mg/L (96h, Pimephales promelas)<br>LC50: 6420 - 6700mg/L (96h, Pimephales promelas) | -                          | EC50: =1000mg/L (48h, Daphnia magna)<br>EC50: 340.7 - 469.2mg/L (48h, Daphnia magna) |

|  |  |   |  |  |
|--|--|---|--|--|
|  |  | LC50: 4747 - 7824mg/L<br>(96h, Oncorhynchus mykiss) |  |  |
|--|--|---|--|--|

**Persistence and degradability** No information available.

**Bioaccumulation** No information available.

**Other adverse effects** No information available.

### 13. Disposal considerations

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

TDG Not regulated

DOT Not regulated

### 15. Regulatory information

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

#### International Regulations

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

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

### 16. Other information

|             |                  |                |                    |                                    |
|-------------|------------------|----------------|--------------------|------------------------------------|
| <u>NFPA</u> | Health hazards 0 | Flammability 0 | Instability 0      | Physical and chemical properties - |
| <u>HMIS</u> | Health hazards 0 | Flammability 0 | Physical hazards 0 | Personal protection X              |

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

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AELG(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  
Australia 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)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

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

**Revision date** 30-Aug-2022

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

**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

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 30-Aug-2022

Revision Number 1

## 1. Identification

### Product identifier

Product Name EcoR I Enzyme

### Other means of identification

Catalog Number(s) 9702950

### Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Restrictions on use 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 Address**

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

#### **Legal Entity / Contact Address**

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### **Technical Service**

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified.

### **Precautionary Statements - Disposal**

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

### Other information

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

### 3. Composition/information on ingredients

#### Substance

Not applicable.

#### Mixture

| Chemical name                               | CAS No     | Weight-%     | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---|------------|--------------|--|---|
| 1,2,3-Propanetriol                          | 56-81-5    | 50 - 100     | -  |   |
| Water                                       | 7732-18-5  | 35 - 50      | -  |   |
| Sodium chloride                             | 7647-14-5  | 0.3 - 0.99   | -  |   |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)- | 77-86-1    | 0.1 - 0.299  | -  |   |
| Nuclease, restriction endodeoxyribo-, ecori | 80498-17-5 | 0.01 - 0.099 | -  |   |
| Albumins, beef serum                        | 94349-60-7 | 0.01 - 0.099 | -  |   |
| 2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-   | 3483-12-3  | 0.01 - 0.099 | -  |   |
| Ethylenediaminetetraacetic acid             | 60-00-4    | 0.001 - 0.01 | -  |   |

### 4. First-aid measures

#### Description of first aid measures

|                       |  |
|-----------------------|--|
| <b>General advice</b> | No hazards which require special first aid measures.   |
| <b>Inhalation</b>     | Remove to fresh air.   |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.   |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.   |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

### 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>               | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| <b>Unsuitable extinguishing media</b>             | No information available.   |
| <b>Specific hazards arising from the chemical</b> | None known.   |
| <b>Explosion data</b>                             |   |
| <b>Sensitivity to mechanical impact</b>           | None.   |

**Sensitivity to static discharge** None.

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

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** See section 8 for more 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 labeled containers.

## 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.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

| Chemical name                 | Alberta                   | British Columbia                                      | Ontario | Quebec                    |
|-------------------------------|---------------------------|---|---------|---------------------------|
| 1,2,3-Propanetriol<br>56-81-5 | TWA: 10 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup><br>TWA: 3 mg/m <sup>3</sup> |         | TWA: 10 mg/m <sup>3</sup> |

### 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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

|                |                          |
|----------------|--------------------------|
| Physical state | Liquid                   |
| Appearance     | aqueous solution         |
| Color          | colorless                |
| Odor           | Odorless                 |
| Odor threshold | No information available |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     |                   | None known              |
| Melting point / freezing point         | No data available | None known              |
| 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 |                         |
| Vapor pressure                         | No data available | None known              |
| Vapor density                          | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Miscible in water |                         |
| Solubility in other solvents           | No data available | None known              |
| Partition coefficient                  | No data available | None known              |
| Autoignition temperature               | 200 °C / 392 °F   | None known              |
| Decomposition temperature              |                   | None known              |
| Kinematic viscosity                    | No data available | None known              |
| Dynamic viscosity                      | No data available | None known              |

### Other information

|                      |                 |
|----------------------|-----------------|
| Explosive properties | Not applicable. |
| Oxidizing properties | Not applicable. |
| Softening point      | Not applicable  |
| Molecular weight     | Not applicable  |
| VOC content          | Not applicable  |

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

|            |   |
|------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. |
|------------|---|

|                     |   |
|---------------------|---|
| <b>Eye contact</b>  | Specific test data for the substance or mixture is not available. |
| <b>Skin contact</b> | Specific test data for the substance or mixture is not available. |
| <b>Ingestion</b>    | Specific test data for the substance or mixture is not available. |

#### Symptoms related to the physical, chemical and toxicological characteristics

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

#### Acute toxicity

#### **Numerical measures of toxicity**

#### **Component Information**

| Chemical name   | Oral LD50             | Dermal LD50              | Inhalation LC50         |
|---|-----------------------|--------------------------|-------------------------|
| 1,2,3-Propanetriol<br>56-81-5                             | = 12600 mg/kg ( Rat ) | > 10 g/kg ( Rabbit )     | > 2.75 mg/L ( Rat ) 4 h |
| Water<br>7732-18-5  | > 90 mL/kg ( Rat )    | -                        | -                       |
| Sodium chloride<br>7647-14-5                              | = 3 g/kg ( Rat )      | > 10000 mg/kg ( Rabbit ) | > 42 mg/L ( Rat ) 1 h   |
| 1,3-Propanediol,<br>2-amino-2-(hydroxymethyl)-<br>77-86-1 | = 5900 mg/kg ( Rat )  | > 5000 mg/kg ( Rat )     | -                       |
| Ethylenediaminetetraacetic acid<br>60-00-4                | > 2000 mg/kg ( Rat )  | -                        | -                       |

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

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Based on available data, the classification criteria are not met. |
| <b>Serious eye damage/eye irritation</b> | Based on available data, the classification criteria are not met. |
| <b>Respiratory or skin sensitization</b> | Based on available data, the classification criteria are not met. |
| <b>Germ cell mutagenicity</b>            | Based on available data, the classification criteria are not met. |
| <b>Carcinogenicity</b>                   | Based on available data, the classification criteria are not met. |
| <b>Reproductive toxicity</b>             | Based on available data, the classification criteria are not met. |
| <b>STOT - single exposure</b>            | Based on available data, the classification criteria are not met. |
| <b>STOT - repeated exposure</b>          | Based on available data, the classification criteria are not met. |
| <b>Target organ effects</b>              | Kidney, Respiratory system, Eyes, Skin.                           |
| <b>Aspiration hazard</b>                 | Based on available data, the classification criteria are not met. |

## **12. Ecological information**

|                    |                          |
|--------------------|--------------------------|
| <b>Ecotoxicity</b> | Harmful to aquatic life. |
|--------------------|--------------------------|

| Chemical name                 | Algae/aquatic plants | Fish   | Toxicity to microorganisms | Crustacea                                    |
|-------------------------------|----------------------|--|----------------------------|--|
| 1,2,3-Propanetriol<br>56-81-5 | -                    | LC50: 51 - 57mL/L (96h, <i>Oncorhynchus mykiss</i> ) | -                          | -  |
| Sodium chloride<br>7647-14-5  | -                    | LC50: 5560 - 6080mg/L (96h, <i>Lepomis</i> )         | -                          | EC50: =1000mg/L (48h, <i>Daphnia magna</i> ) |



|  |  |   |   |   |
|--|--|---|---|---|
|  |  | macrochirus)<br>LC50: =12946mg/L (96h,<br>Lepomis macrochirus)<br>LC50: 6020 - 7070mg/L<br>(96h, Pimephales<br>promelas)<br>LC50: =7050mg/L (96h,<br>Pimephales promelas)<br>LC50: 6420 - 6700mg/L<br>(96h, Pimephales<br>promelas)<br>LC50: 4747 - 7824mg/L<br>(96h, Oncorhynchus<br>mykiss) |   | EC50: 340.7 - 469.2mg/L<br>(48h, Daphnia magna) |
| Ethylenediaminetetraacetic acid<br>60-00-4 | EC50: =1.01mg/L (72h,<br>Desmodesmus<br>subspicatus) | LC50: 34 - 62mg/L (96h,<br>Lepomis macrochirus)<br>LC50: 44.2 - 76.5mg/L<br>(96h, Pimephales<br>promelas)   | - | EC50: =113mg/L (48h,<br>Daphnia magna)          |

**Persistence and degradability** No information available.

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

#### Component Information

| Chemical name                 | Partition coefficient |
|-------------------------------|-----------------------|
| 1,2,3-Propanetriol<br>56-81-5 | -1.75                 |

**Other adverse effects** No information available.

### 13. Disposal considerations

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

**TDG** Not regulated

**DOT** Not regulated

### 15. Regulatory information

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

#### International Regulations

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

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

The Rotterdam Convention Not applicable

**International Inventories**

Contact supplier for inventory compliance status

## 16. Other information

|             |                         |                       |                           |   |
|-------------|-------------------------|-----------------------|---------------------------|---|
| <b>NFPA</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 0 | <b>Instability</b> 0      | <b>Physical and chemical properties</b> - |
| <b>HMIS</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 0 | <b>Physical hazards</b> 0 | <b>Personal protection</b> X              |

**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                 |

**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) (AELG(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  
Australia 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)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

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

**Revision date** 30-Aug-2022

**Revision Note** Reformatted and updated existing information.

**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

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 30-Aug-2022

Revision Number 3

## 1. Identification

### Product identifier

Product Name Hind III Enzyme

### Other means of identification

Catalog Number(s) 9702948

### Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Restrictions on use 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 Address**

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

#### **Legal Entity / Contact Address**

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### **Technical Service**

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified.

### **Precautionary Statements - Disposal**

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

### Other information

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

### 3. Composition/information on ingredients

#### Substance

Not applicable.

#### Mixture

| Chemical name                                 | CAS No     | Weight-%     | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---|------------|--------------|--|---|
| 1,2,3-Propanetriol                            | 56-81-5    | 50 - 100     | -  |   |
| Water   | 7732-18-5  | 35 - 50      | -  |   |
| Sodium chloride                               | 7647-14-5  | 0.3 - 0.99   | -  |   |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-   | 77-86-1    | 0.1 - 0.299  | -  |   |
| Nuclease, restriction endodeoxyribo-, HINDIII | 81295-22-9 | 0.01 - 0.099 | -  |   |
| Albumins, beef serum                          | 94349-60-7 | 0.01 - 0.099 | -  |   |
| 2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-     | 3483-12-3  | 0.01 - 0.099 | -  |   |
| Ethylenediaminetetraacetic acid               | 60-00-4    | 0.001 - 0.01 | -  |   |

### 4. First-aid measures

#### Description of first aid measures

|                       |  |
|-----------------------|--|
| <b>General advice</b> | No hazards which require special first aid measures.   |
| <b>Inhalation</b>     | Remove to fresh air.   |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.   |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.   |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

### 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>               | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| <b>Unsuitable extinguishing media</b>             | No information available.   |
| <b>Specific hazards arising from the chemical</b> | None known.   |
| <b>Explosion data</b>                             |   |
| <b>Sensitivity to mechanical impact</b>           | None.   |

**Sensitivity to static discharge** None.

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

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** See section 8 for more 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 labeled containers.

## 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.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

| Chemical name                 | Alberta                   | British Columbia                                      | Ontario | Quebec                    |
|-------------------------------|---------------------------|---|---------|---------------------------|
| 1,2,3-Propanetriol<br>56-81-5 | TWA: 10 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup><br>TWA: 3 mg/m <sup>3</sup> |         | TWA: 10 mg/m <sup>3</sup> |

### 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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

|                |                          |
|----------------|--------------------------|
| Physical state | Liquid                   |
| Appearance     | aqueous solution         |
| Color          | colorless                |
| Odor           | Odorless                 |
| Odor threshold | No information available |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     |                   | None known              |
| Melting point / freezing point         | No data available | None known              |
| Boiling point / boiling range          | > 100 °C / 212 °F |                         |
| Flash point                            | > 160 °C / 320 °F |                         |
| 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 |                         |
| Vapor pressure                         | No data available | None known              |
| Vapor density                          | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Miscible in water |                         |
| Solubility in other solvents           | No data available | None known              |
| Partition coefficient                  | No data available | None known              |
| Autoignition temperature               | 200 °C / 392 °F   | None known              |
| Decomposition temperature              |                   | None known              |
| Kinematic viscosity                    | No data available | None known              |
| Dynamic viscosity                      | No data available | None known              |

### Other information

|                      |                 |
|----------------------|-----------------|
| Explosive properties | Not applicable. |
| Oxidizing properties | Not applicable. |
| Softening point      | Not applicable  |
| Molecular weight     | Not applicable  |
| VOC content          | Not applicable  |

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

|            |   |
|------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. |
|------------|---|

|                     |   |
|---------------------|---|
| <b>Eye contact</b>  | Specific test data for the substance or mixture is not available. |
| <b>Skin contact</b> | Specific test data for the substance or mixture is not available. |
| <b>Ingestion</b>    | Specific test data for the substance or mixture is not available. |

#### Symptoms related to the physical, chemical and toxicological characteristics

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

#### Acute toxicity

#### Numerical measures of toxicity

#### Component Information

| Chemical name   | Oral LD50             | Dermal LD50              | Inhalation LC50         |
|---|-----------------------|--------------------------|-------------------------|
| 1,2,3-Propanetriol<br>56-81-5                             | = 12600 mg/kg ( Rat ) | > 10 g/kg ( Rabbit )     | > 2.75 mg/L ( Rat ) 4 h |
| Water<br>7732-18-5  | > 90 mL/kg ( Rat )    | -                        | -                       |
| Sodium chloride<br>7647-14-5                              | = 3 g/kg ( Rat )      | > 10000 mg/kg ( Rabbit ) | > 42 mg/L ( Rat ) 1 h   |
| 1,3-Propanediol,<br>2-amino-2-(hydroxymethyl)-<br>77-86-1 | = 5900 mg/kg ( Rat )  | > 5000 mg/kg ( Rat )     | -                       |
| Ethylenediaminetetraacetic acid<br>60-00-4                | > 2000 mg/kg ( Rat )  | -                        | -                       |

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

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Based on available data, the classification criteria are not met. |
| <b>Serious eye damage/eye irritation</b> | Based on available data, the classification criteria are not met. |
| <b>Respiratory or skin sensitization</b> | Based on available data, the classification criteria are not met. |
| <b>Germ cell mutagenicity</b>            | Based on available data, the classification criteria are not met. |
| <b>Carcinogenicity</b>                   | Based on available data, the classification criteria are not met. |
| <b>Reproductive toxicity</b>             | Based on available data, the classification criteria are not met. |
| <b>STOT - single exposure</b>            | Based on available data, the classification criteria are not met. |
| <b>STOT - repeated exposure</b>          | Based on available data, the classification criteria are not met. |
| <b>Target organ effects</b>              | Kidney, Respiratory system, Eyes, Skin.                           |
| <b>Aspiration hazard</b>                 | Based on available data, the classification criteria are not met. |

## 12. Ecological information

|                    |                          |
|--------------------|--------------------------|
| <b>Ecotoxicity</b> | Harmful to aquatic life. |
|--------------------|--------------------------|

| Chemical name                 | Algae/aquatic plants | Fish   | Toxicity to microorganisms | Crustacea                                    |
|-------------------------------|----------------------|--|----------------------------|--|
| 1,2,3-Propanetriol<br>56-81-5 | -                    | LC50: 51 - 57mL/L (96h, <i>Oncorhynchus mykiss</i> ) | -                          | -  |
| Sodium chloride<br>7647-14-5  | -                    | LC50: 5560 - 6080mg/L (96h, <i>Lepomis</i> )         | -                          | EC50: =1000mg/L (48h, <i>Daphnia magna</i> ) |

|  |  |   |   |   |
|--|--|---|---|---|
|  |  | macrochirus)<br>LC50: =12946mg/L (96h,<br>Lepomis macrochirus)<br>LC50: 6020 - 7070mg/L<br>(96h, Pimephales<br>promelas)<br>LC50: =7050mg/L (96h,<br>Pimephales promelas)<br>LC50: 6420 - 6700mg/L<br>(96h, Pimephales<br>promelas)<br>LC50: 4747 - 7824mg/L<br>(96h, Oncorhynchus<br>mykiss) |   | EC50: 340.7 - 469.2mg/L<br>(48h, Daphnia magna) |
| Ethylenediaminetetraacetic acid<br>60-00-4 | EC50: =1.01mg/L (72h,<br>Desmodesmus<br>subspicatus) | LC50: 34 - 62mg/L (96h,<br>Lepomis macrochirus)<br>LC50: 44.2 - 76.5mg/L<br>(96h, Pimephales<br>promelas)   | - | EC50: =113mg/L (48h,<br>Daphnia magna)          |

**Persistence and degradability** No information available.

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

#### Component Information

| Chemical name                 | Partition coefficient |
|-------------------------------|-----------------------|
| 1,2,3-Propanetriol<br>56-81-5 | -1.75                 |

**Other adverse effects** No information available.

### 13. Disposal considerations

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

**TDG** Not regulated

**DOT** Not regulated

### 15. Regulatory information

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

#### International Regulations

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

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable



**The Rotterdam Convention** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

## 16. Other information

|             |                         |                       |                           |   |
|-------------|-------------------------|-----------------------|---------------------------|---|
| <b>NFPA</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 1 | <b>Instability</b> 0      | <b>Physical and chemical properties</b> - |
| <b>HMIS</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 1 | <b>Physical hazards</b> 0 | <b>Personal protection</b> X              |

**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                 |

**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) (AELG(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  
 Australia 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)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 RTECS (Registry of Toxic Effects of Chemical Substances)  
 World Health Organization

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

**Revision date** 30-Aug-2022

**Revision Note** Reformatted and updated existing information.

**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

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 30-Aug-2022

Revision Number 1

## 1. Identification

### Product identifier

Product Name Lambda DNA

### Other means of identification

Catalog Number(s) 9702947

### Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Restrictions on use 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 Address**

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

#### **Legal Entity / Contact Address**

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### **Technical Service**

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified.

### Other information

## 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

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

| Chemical name                                | CAS No     | Weight-%     | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|--|------------|--------------|--|---|
| Water  | 7732-18-5  | 50 - 100     | -  |   |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-  | 77-86-1    | 0.1 - 0.299  | -  |   |
| Deoxyribonucleic acids, bacteriophage lambda | 91080-14-7 | 0.01 - 0.099 | -  |   |
| Ethylenediaminetetraacetic acid              | 60-00-4    | 0.001 - 0.01 | -  |   |

**4. First-aid measures****Description of first aid measures**

|                       |  |
|-----------------------|--|
| <b>General advice</b> | No hazards which require special first aid measures.   |
| <b>Inhalation</b>     | Remove to fresh air.   |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.   |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.   |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

**5. Fire-fighting measures**

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>                   | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                            |
| <b>Unsuitable extinguishing media</b>                 | No information available.  |
| <b>Specific hazards arising from the chemical</b>     | None known.  |
| <b>Explosion data</b>                                 |  |
| <b>Sensitivity to mechanical impact</b>               | None.  |
| <b>Sensitivity to static discharge</b>                | None.  |
| <b>Special protective equipment for fire-fighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

**6. Accidental release measures**

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

**Personal precautions** See section 8 for more 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 labeled containers.

**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.

**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.

**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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties****Information on basic physical and chemical properties**

|                       |                          |
|-----------------------|--------------------------|
| <b>Physical state</b> | Liquid                   |
| <b>Appearance</b>     | aqueous solution         |
| <b>Color</b>          | colorless                |
| <b>Odor</b>           | Odorless                 |
| <b>Odor threshold</b> | No information available |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     |                   | None known              |
| Melting point / freezing point         | 0 °C / 32 °F      |                         |
| Boiling point / boiling range          | 100 °C / 212 °F   |                         |
| 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 |                         |
| Vapor pressure                         | No data available | None known              |
| Vapor density                          | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Miscible in water |                         |
| Solubility in other solvents           | No data available | None known              |
| Partition coefficient                  | No data available | None known              |
| Autoignition temperature               | 200 °C / 392 °F   | None known              |
| Decomposition temperature              |                   | None known              |
| Kinematic viscosity                    | No data available | None known              |
| Dynamic viscosity                      | No data available | None known              |
| <u>Other information</u>               |                   |                         |
| Explosive properties                   | Not applicable.   |                         |
| Oxidizing properties                   | Not applicable.   |                         |
| Softening point                        | Not applicable    |                         |
| Molecular weight                       | Not applicable    |                         |
| VOC content                            | Not applicable    |                         |

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

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

### Symptoms related to the physical, chemical and toxicological characteristics

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

**Acute toxicity****Numerical measures of toxicity**

| Chemical name   | Oral LD50            | Dermal LD50          | Inhalation LC50 |
|---|----------------------|----------------------|-----------------|
| Water<br>7732-18-5  | > 90 mL/kg ( Rat )   | -                    | -               |
| 1,3-Propanediol,<br>2-amino-2-(hydroxymethyl)-<br>77-86-1 | = 5900 mg/kg ( Rat ) | > 5000 mg/kg ( Rat ) | -               |
| Ethylenediaminetetraacetic acid<br>60-00-4                | > 2000 mg/kg ( Rat ) | -                    | -               |

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

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Based on available data, the classification criteria are not met. |
| <b>Serious eye damage/eye irritation</b> | Based on available data, the classification criteria are not met. |
| <b>Respiratory or skin sensitization</b> | Based on available data, the classification criteria are not met. |
| <b>Germ cell mutagenicity</b>            | Based on available data, the classification criteria are not met. |
| <b>Carcinogenicity</b>                   | Based on available data, the classification criteria are not met. |
| <b>Reproductive toxicity</b>             | Based on available data, the classification criteria are not met. |
| <b>STOT - single exposure</b>            | Based on available data, the classification criteria are not met. |
| <b>STOT - repeated exposure</b>          | Based on available data, the classification criteria are not met. |
| <b>Aspiration hazard</b>                 | Based on available data, the classification criteria are not met. |

**12. Ecological information****Ecotoxicity**

| Chemical name                              | Algae/aquatic plants                                   | Fish   | Toxicity to microorganisms | Crustacea                                   |
|--|--|--|----------------------------|---|
| Ethylenediaminetetraacetic acid<br>60-00-4 | EC50: =1.01mg/L (72h, <i>Desmodesmus subspicatus</i> ) | LC50: 34 - 62mg/L (96h, <i>Lepomis macrochirus</i> )<br>LC50: 44.2 - 76.5mg/L (96h, <i>Pimephales promelas</i> ) | -                          | EC50: =113mg/L (48h, <i>Daphnia magna</i> ) |

|                                      |                           |
|--------------------------------------|---------------------------|
| <b>Persistence and degradability</b> | No information available. |
| <b>Bioaccumulation</b>               | No information available. |
| <b>Other adverse effects</b>         | No information available. |

**13. Disposal considerations****Waste treatment methods**

|                                   |  |
|-----------------------------------|--|
| <b>Waste from residues/unused</b> | Dispose of in accordance with local regulations. Dispose of waste in accordance with |
|-----------------------------------|--|

|                               |                                |
|-------------------------------|--------------------------------|
| <b>products</b>               | environmental legislation.     |
| <b>Contaminated packaging</b> | Do not reuse empty containers. |

## 14. Transport information

|            |               |
|------------|---------------|
| <b>TDG</b> | Not regulated |
| <b>DOT</b> | Not regulated |

## 15. Regulatory information

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

#### International Regulations

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

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. Other information

|             |                         |                       |                           |   |
|-------------|-------------------------|-----------------------|---------------------------|---|
| <b>NFPA</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 0 | <b>Instability</b> 0      | <b>Physical and chemical properties</b> - |
| <b>HMIS</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 0 | <b>Physical hazards</b> 0 | <b>Personal protection</b> X              |

### 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                 |

#### **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  
 Australia 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)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

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

**Revision date** 30-Aug-2022

**Revision Note** Reformatted and updated existing information.

**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

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 30-Aug-2022

Revision Number 1

## 1. Identification

### Product identifier

Product Name Pst I Enzyme

### Other means of identification

Catalog Number(s) 9702949

### Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Restrictions on use 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 Address**

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

#### **Legal Entity / Contact Address**

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### **Technical Service**

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified.

### **Precautionary Statements - Disposal**

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

### Other information

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

### 3. Composition/information on ingredients

#### Substance

Not applicable.

#### Mixture

| Chemical name                               | CAS No     | Weight-%     | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---|------------|--------------|--|---|
| 1,2,3-Propanetriol                          | 56-81-5    | 50 - 100     | -  |   |
| Water                                       | 7732-18-5  | 35 - 50      | -  |   |
| Sodium chloride                             | 7647-14-5  | 0.3 - 0.99   | -  |   |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)- | 77-86-1    | 0.1 - 0.299  | -  |   |
| Nuclease, restriction endodeoxyribo-, PSTI  | 81295-32-1 | 0.01 - 0.099 | -  |   |
| Albumins, beef serum                        | 94349-60-7 | 0.01 - 0.099 | -  |   |
| 2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-   | 3483-12-3  | 0.01 - 0.099 | -  |   |
| Ethylenediaminetetraacetic acid             | 60-00-4    | 0.001 - 0.01 | -  |   |

### 4. First-aid measures

#### Description of first aid measures

|                       |  |
|-----------------------|--|
| <b>General advice</b> | No hazards which require special first aid measures.   |
| <b>Inhalation</b>     | Remove to fresh air.   |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.   |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.   |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

### 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>               | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| <b>Unsuitable extinguishing media</b>             | No information available.   |
| <b>Specific hazards arising from the chemical</b> | None known.   |
| <b>Explosion data</b>                             |   |
| <b>Sensitivity to mechanical impact</b>           | None.   |

**Sensitivity to static discharge** None.

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

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** See section 8 for more 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 labeled containers.

## 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.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

| Chemical name                 | Alberta                   | British Columbia                                      | Ontario | Quebec                    |
|-------------------------------|---------------------------|---|---------|---------------------------|
| 1,2,3-Propanetriol<br>56-81-5 | TWA: 10 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup><br>TWA: 3 mg/m <sup>3</sup> |         | TWA: 10 mg/m <sup>3</sup> |

### 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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

|                |                          |
|----------------|--------------------------|
| Physical state | Liquid                   |
| Appearance     | aqueous solution         |
| Color          | colorless                |
| Odor           | Odorless                 |
| Odor threshold | No information available |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     |                   | None known              |
| Melting point / freezing point         | No data available | None known              |
| Boiling point / boiling range          | > 100 °C / 212 °F |                         |
| Flash point                            | > 160 °C / 320 °F |                         |
| 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 |                         |
| Vapor pressure                         | No data available | None known              |
| Vapor density                          | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Miscible in water |                         |
| Solubility in other solvents           | No data available | None known              |
| Partition coefficient                  | No data available | None known              |
| Autoignition temperature               | 200               | None known              |
| Decomposition temperature              |                   | None known              |
| Kinematic viscosity                    | No data available | None known              |
| Dynamic viscosity                      | No data available | None known              |

### Other information

|                      |                 |
|----------------------|-----------------|
| Explosive properties | Not applicable. |
| Oxidizing properties | Not applicable. |
| Softening point      | Not applicable  |
| Molecular weight     | Not applicable  |
| VOC content          | Not applicable  |

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

|            |   |
|------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. |
|------------|---|

|                     |   |
|---------------------|---|
| <b>Eye contact</b>  | Specific test data for the substance or mixture is not available. |
| <b>Skin contact</b> | Specific test data for the substance or mixture is not available. |
| <b>Ingestion</b>    | Specific test data for the substance or mixture is not available. |

#### Symptoms related to the physical, chemical and toxicological characteristics

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

#### Acute toxicity

#### Numerical measures of toxicity

#### Component Information

| Chemical name   | Oral LD50             | Dermal LD50              | Inhalation LC50         |
|---|-----------------------|--------------------------|-------------------------|
| 1,2,3-Propanetriol<br>56-81-5                             | = 12600 mg/kg ( Rat ) | > 10 g/kg ( Rabbit )     | > 2.75 mg/L ( Rat ) 4 h |
| Water<br>7732-18-5  | > 90 mL/kg ( Rat )    | -                        | -                       |
| Sodium chloride<br>7647-14-5                              | = 3 g/kg ( Rat )      | > 10000 mg/kg ( Rabbit ) | > 42 mg/L ( Rat ) 1 h   |
| 1,3-Propanediol,<br>2-amino-2-(hydroxymethyl)-<br>77-86-1 | = 5900 mg/kg ( Rat )  | > 5000 mg/kg ( Rat )     | -                       |
| Ethylenediaminetetraacetic acid<br>60-00-4                | > 2000 mg/kg ( Rat )  | -                        | -                       |

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

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Based on available data, the classification criteria are not met. |
| <b>Serious eye damage/eye irritation</b> | Based on available data, the classification criteria are not met. |
| <b>Respiratory or skin sensitization</b> | Based on available data, the classification criteria are not met. |
| <b>Germ cell mutagenicity</b>            | Based on available data, the classification criteria are not met. |
| <b>Carcinogenicity</b>                   | Based on available data, the classification criteria are not met. |
| <b>Reproductive toxicity</b>             | Based on available data, the classification criteria are not met. |
| <b>STOT - single exposure</b>            | Based on available data, the classification criteria are not met. |
| <b>STOT - repeated exposure</b>          | Based on available data, the classification criteria are not met. |
| <b>Target organ effects</b>              | Kidney, Respiratory system, Eyes, Skin.                           |
| <b>Aspiration hazard</b>                 | Based on available data, the classification criteria are not met. |

## 12. Ecological information

|                    |                          |
|--------------------|--------------------------|
| <b>Ecotoxicity</b> | Harmful to aquatic life. |
|--------------------|--------------------------|

| Chemical name                 | Algae/aquatic plants | Fish   | Toxicity to microorganisms | Crustacea                                    |
|-------------------------------|----------------------|--|----------------------------|--|
| 1,2,3-Propanetriol<br>56-81-5 | -                    | LC50: 51 - 57mL/L (96h, <i>Oncorhynchus mykiss</i> ) | -                          | -  |
| Sodium chloride<br>7647-14-5  | -                    | LC50: 5560 - 6080mg/L (96h, <i>Lepomis</i> )         | -                          | EC50: =1000mg/L (48h, <i>Daphnia magna</i> ) |

|  |  |   |   |   |
|--|--|---|---|---|
|  |  | macrochirus)<br>LC50: =12946mg/L (96h,<br>Lepomis macrochirus)<br>LC50: 6020 - 7070mg/L<br>(96h, Pimephales<br>promelas)<br>LC50: =7050mg/L (96h,<br>Pimephales promelas)<br>LC50: 6420 - 6700mg/L<br>(96h, Pimephales<br>promelas)<br>LC50: 4747 - 7824mg/L<br>(96h, Oncorhynchus<br>mykiss) |   | EC50: 340.7 - 469.2mg/L<br>(48h, Daphnia magna) |
| Ethylenediaminetetraacetic acid<br>60-00-4 | EC50: =1.01mg/L (72h,<br>Desmodesmus<br>subspicatus) | LC50: 34 - 62mg/L (96h,<br>Lepomis macrochirus)<br>LC50: 44.2 - 76.5mg/L<br>(96h, Pimephales<br>promelas)   | - | EC50: =113mg/L (48h,<br>Daphnia magna)          |

**Persistence and degradability** No information available.

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

#### Component Information

| Chemical name                 | Partition coefficient |
|-------------------------------|-----------------------|
| 1,2,3-Propanetriol<br>56-81-5 | -1.75                 |

**Other adverse effects** No information available.

### 13. Disposal considerations

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

**TDG** Not regulated

**DOT** Not regulated

### 15. Regulatory information

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

#### International Regulations

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

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

The Rotterdam Convention Not applicable

**International Inventories**

Contact supplier for inventory compliance status

## 16. Other information

|             |                         |                       |                           |   |
|-------------|-------------------------|-----------------------|---------------------------|---|
| <b>NFPA</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 1 | <b>Instability</b> 0      | <b>Physical and chemical properties</b> - |
| <b>HMIS</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 1 | <b>Physical hazards</b> 0 | <b>Personal protection</b> X              |

**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                 |

**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) (AELG(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  
Australia 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)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

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

**Revision date** 30-Aug-2022

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

**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

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 30-Aug-2022

Revision Number 1

## 1. Identification

### Product identifier

Product Name 2X Restriction Buffer

### Other means of identification

Catalog Number(s) 9702951

### Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Restrictions on use 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 Address

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### Technical Service

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### Hazard statements

Not classified.

### Other information

## 3. Composition/information on ingredients



**Substance**

Not applicable.

**Mixture**

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

| Chemical name  | CAS No    | Weight-%     | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|--|-----------|--------------|--|---|
| Water  | 7732-18-5 | 50 - 100     | -  |   |
| Sodium chloride  | 7647-14-5 | 0.3 - 0.99   | -  |   |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | 1185-53-1 | 0.1 - 0.299  | -  |   |
| Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate       | 7791-18-6 | 0.1 - 0.299  | -  |   |
| 2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-                  | 3483-12-3 | 0.01 - 0.099 | -  |   |

**4. First-aid measures****Description of first aid measures**

|                       |  |
|-----------------------|--|
| <b>General advice</b> | No hazards which require special first aid measures.   |
| <b>Inhalation</b>     | Remove to fresh air.   |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.   |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.   |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

**5. Fire-fighting measures**

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>                   | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                            |
| <b>Unsuitable extinguishing media</b>                 | No information available.  |
| <b>Specific hazards arising from the chemical</b>     | None known.  |
| <b>Explosion data</b>                                 |  |
| <b>Sensitivity to mechanical impact</b>               | None.  |
| <b>Sensitivity to static discharge</b>                | None.  |
| <b>Special protective equipment for fire-fighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** See section 8 for more 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 labeled containers.

## 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.

## 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.

### 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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

**Physical state** Liquid  
**Appearance** aqueous solution  
**Color** colorless  
**Odor** Odorless

Odor threshold No information available

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     |                   | None known              |
| Melting point / freezing point         | 0 °C / 32 °F      |                         |
| Boiling point / boiling range          | 100 °C / 212 °F   |                         |
| 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 |                         |
| Vapor pressure                         | No data available | None known              |
| Vapor density                          | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Miscible in water |                         |
| Solubility in other solvents           | 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              |
| <u>Other information</u>               |                   |                         |
| Explosive properties                   | Not applicable.   |                         |
| Oxidizing properties                   | Not applicable.   |                         |
| Softening point                        | Not applicable    |                         |
| Molecular weight                       | Not applicable    |                         |
| VOC content                            | Not applicable    |                         |

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

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

### Symptoms related to the physical, chemical and toxicological characteristics

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

Acute toxicity

## Numerical measures of toxicity

| Chemical name  | Oral LD50            | Dermal LD50              | Inhalation LC50       |
|--|----------------------|--------------------------|-----------------------|
| Water<br>7732-18-5   | > 90 mL/kg ( Rat )   | -                        | -                     |
| Sodium chloride<br>7647-14-5   | = 3 g/kg ( Rat )     | > 10000 mg/kg ( Rabbit ) | > 42 mg/L ( Rat ) 1 h |
| Magnesium chloride (MgCl <sub>2</sub> ),<br>hexahydrate<br>7791-18-6 | = 8100 mg/kg ( Rat ) | -                        | -                     |

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

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Based on available data, the classification criteria are not met. |
| <b>Serious eye damage/eye irritation</b> | Based on available data, the classification criteria are not met. |
| <b>Respiratory or skin sensitization</b> | Based on available data, the classification criteria are not met. |
| <b>Germ cell mutagenicity</b>            | Based on available data, the classification criteria are not met. |
| <b>Carcinogenicity</b>                   | Based on available data, the classification criteria are not met. |
| <b>Reproductive toxicity</b>             | Based on available data, the classification criteria are not met. |
| <b>STOT - single exposure</b>            | Based on available data, the classification criteria are not met. |
| <b>STOT - repeated exposure</b>          | Based on available data, the classification criteria are not met. |
| <b>Aspiration hazard</b>                 | Based on available data, the classification criteria are not met. |

**12. Ecological information**

## Ecotoxicity

| Chemical name                | Algae/aquatic plants | Fish  | Toxicity to microorganisms | Crustacea  |
|------------------------------|----------------------|---|----------------------------|--|
| Sodium chloride<br>7647-14-5 | -                    | LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus)<br>LC50: =12946mg/L (96h, Lepomis macrochirus)<br>LC50: 6020 - 7070mg/L (96h, Pimephales promelas)<br>LC50: =7050mg/L (96h, Pimephales promelas)<br>LC50: 6420 - 6700mg/L (96h, Pimephales promelas)<br>LC50: 4747 - 7824mg/L (96h, Oncorhynchus mykiss) | -                          | EC50: =1000mg/L (48h, Daphnia magna)<br>EC50: 340.7 - 469.2mg/L (48h, Daphnia magna) |

**Persistence and degradability** No information available.

**Bioaccumulation** No information available.

| Chemical name   | Partition coefficient |
|---|-----------------------|
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride<br>1185-53-1 | -3.6                  |

**Other adverse effects** No information available.

### 13. Disposal considerations

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

**TDG** Not regulated

**DOT** Not regulated

### 15. Regulatory information

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

#### International Regulations

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

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

### 16. Other information

|             |                         |                       |                           |   |
|-------------|-------------------------|-----------------------|---------------------------|---|
| <b>NFPA</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 0 | <b>Instability</b> 0      | <b>Physical and chemical properties</b> - |
| <b>HMIS</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 0 | <b>Physical hazards</b> 0 | <b>Personal protection</b> X              |

#### 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                 |

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

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EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
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U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
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International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australia 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)  
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RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

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

**Revision date** 30-Aug-2022

**Revision Note** Reformatted and updated existing information.

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 31-Aug-2022

Revision Number 2.1

## 1. Identification

### Product identifier

Product Name Sample Loading Dye

### Other means of identification

Catalog Number(s) 1660401, 1660401EDU, 9702945

### Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Restrictions on use 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 Address

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

#### Technical Service

1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

#### Hazard statements

Not classified.

### Other information

### 3. Composition/information on ingredients

#### Substance

Not applicable.

#### Mixture

| Chemical name  | CAS No     | Weight-%     | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|--|------------|--------------|--|---|
| Water  | 7732-18-5  | 50 - 100     | -  |   |
| 1,2,3-Propanetriol   | 56-81-5    | 20 - 35      | -  |   |
| Phenol,<br>4,4-(3H-2,1-benzoxathiol-3-ylidene)bis[2,6-dibromo-,<br>S,S-dioxide, monosodium salt  | 34725-61-6 | 0.01 - 0.099 | -  |   |
| 1,3-Benzenedisulfonic acid,<br>4-[[4-(ethylamino)-3-methylphenyl][4-(ethylimino)-3-<br>methyl-2,5-cyclohexadien-1-ylidene]methyl]-,<br>monosodium salt | 2650-17-1  | 0.01 - 0.099 | -  |   |

### 4. First-aid measures

#### Description of first aid measures

|                       |   |
|-----------------------|---|
| <b>General advice</b> | No hazards which require special first aid measures.  |
| <b>Inhalation</b>     | Remove to fresh air.  |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.<br>Consult a physician. |
| <b>Skin contact</b>   | Wash skin with soap and water.  |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water.  |

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

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

### 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>               | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| <b>Unsuitable extinguishing media</b>             | No information available.   |
| <b>Specific hazards arising from the chemical</b> | None known.   |
| <b>Explosion data</b>                             |   |
| <b>Sensitivity to mechanical impact</b>           | None.   |
| <b>Sensitivity to static discharge</b>            | None.   |



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

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** See section 8 for more 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 labeled containers.

## 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.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

| Chemical name                 | Alberta                   | British Columbia                                      | Ontario | Quebec                    |
|-------------------------------|---------------------------|---|---------|---------------------------|
| 1,2,3-Propanetriol<br>56-81-5 | TWA: 10 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup><br>TWA: 3 mg/m <sup>3</sup> |         | TWA: 10 mg/m <sup>3</sup> |

### 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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

|                |                          |
|----------------|--------------------------|
| Physical state | Liquid                   |
| Appearance     | aqueous solution         |
| Color          | blue                     |
| Odor           | Odorless                 |
| Odor threshold | No information available |

| <b>Property</b>                        | <b>Values</b>      | <b>Remarks • Method</b> |
|--|--------------------|-------------------------|
| pH                                     |                    | None known              |
| Melting point / freezing point         | No data available  | None known              |
| Boiling point / boiling range          | > 100 °C / 212 °F  |                         |
| 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  |                         |
| Vapor pressure                         | No data available  | None known              |
| Vapor density                          | No data available  | None known              |
| Relative density                       | 1.0                | None known              |
| Water solubility                       | Miscible in water  |                         |
| Solubility in other solvents           | No data available  | None known              |
| Partition coefficient                  | No data available  | None known              |
| Autoignition temperature               | 392.78 °C / 739 °F | None known              |
| Decomposition temperature              |                    | None known              |
| Kinematic viscosity                    | No data available  | None known              |
| Dynamic viscosity                      | No data available  | None known              |
| <b>Other information</b>               |                    |                         |
| Explosive properties                   | Not applicable.    |                         |
| Oxidizing properties                   | Not applicable.    |                         |
| Softening point                        | Not applicable     |                         |
| Molecular weight                       | Not applicable     |                         |
| VOC content                            | Not applicable     |                         |

**10. Stability and reactivity**

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

**11. Toxicological information****Information on likely routes of exposure****Product Information**

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

**Ingestion**

Specific test data for the substance or mixture is not available.

**Symptoms related to the physical, chemical and toxicological characteristics****Symptoms**

No information available.

**Acute toxicity****Numerical measures of toxicity****Component Information**

| Chemical name                 | Oral LD50             | Dermal LD50          | Inhalation LC50         |
|-------------------------------|-----------------------|----------------------|-------------------------|
| Water<br>7732-18-5            | > 90 mL/kg ( Rat )    | -                    | -                       |
| 1,2,3-Propanetriol<br>56-81-5 | = 12600 mg/kg ( Rat ) | > 10 g/kg ( Rabbit ) | > 2.75 mg/L ( Rat ) 4 h |

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

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.

**STOT - repeated exposure**

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

**Target organ effects**

Kidney, Respiratory system, Eyes, Skin.

**Aspiration hazard**

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

**12. Ecological information****Ecotoxicity**

| Chemical name                 | Algae/aquatic plants | Fish   | Toxicity to microorganisms | Crustacea |
|-------------------------------|----------------------|--|----------------------------|-----------|
| 1,2,3-Propanetriol<br>56-81-5 | -                    | LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss) | -                          | -         |

**Persistence and degradability**

No information available.

**Bioaccumulation**

There is no data for this product.

**Component Information**

| Chemical name                 | Partition coefficient |
|-------------------------------|-----------------------|
| 1,2,3-Propanetriol<br>56-81-5 | -1.75                 |

**Other adverse effects**

No information available.

### 13. Disposal considerations

#### Waste treatment methods

|  |   |
|--|---|
| <b>Waste from residues/unused products</b> | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| <b>Contaminated packaging</b>              | Do not reuse empty containers.  |

### 14. Transport information

**TDG** Not regulated

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### 15. Regulatory information

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|             |                         |                       |                           |   |
|-------------|-------------------------|-----------------------|---------------------------|---|
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| <b>HMIS</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 0 | <b>Physical hazards</b> 0 | <b>Personal protection</b> X              |

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#### Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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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  
Australia 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)  
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