

# KIT SAFETY DATA SHEET



**Kit Product Name** Amplified Opti-4CN Substrate Kit

**Kit Catalogue Number(s)** 1708238, 1708238EDU

**Revision date** 16-Aug-2022

## Kit Contents

| Catalogue Number(s) | Product Name              |
|---------------------|---------------------------|
| 9703204             | Amplification Reagent 4X  |
| 9703212             | Opti-4CN Diluent          |
| 9703210             | Opti-4CN Substrate        |
| 9703205             | 2X Amplification Diluent  |
| 9703261             | Phosphate Buffered Saline |
| 9703207             | Blocking Reagent          |
| 9703206             | Streptavidin-HRP-FP106    |



# SAFETY DATA SHEET

According to WHS Regulations

Revision date 16-Aug-2022

Revision Number 1.1

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

### Product identifier

**Product Name** Amplification Reagent 4X

**Catalogue Number(s)** 9703204

### Other means of identification

**Pure substance/mixture** Mixture

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

**Recommended use** Laboratory chemicals

**Uses advised against** No information available

### Details of manufacturer or importer

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
u1A, 62 Ferndell Street,  
South Granville NSW 2142  
Australia

For further information, please contact

**Technical Service** +61 2 9914 2800 or 1800 224 354  
sales.australia@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Australia: 61-290372994

**Emergency telephone number** No information available

## SECTION 2: Hazards identification

### GHS Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified

### Other hazards which do not result in classification

## SECTION 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-% |
|---------------------------|-------------|----------|
| Non-hazardous ingredients | Proprietary | Balance  |

**SECTION 4: First aid measures****Description of first aid measures**

|                                   |  |
|-----------------------------------|--|
| <b>General advice</b>             | No hazards which require special first aid measures.   |
| <b>Emergency telephone number</b> | Poisons Information Centre, Australia: 13 11 26<br>Poisons Information Centre, New Zealand: 0800 764 766             |
| <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 doctor. |
| <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 doctors</b> | Treat symptomatically. |
|------------------------|------------------------|

**SECTION 5: Firefighting measures****Suitable Extinguishing Media**

|                                     |   |
|-------------------------------------|---|
| <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. |
|---------------------------------------|---------------------------|

**Specific hazards arising from the chemical**

|   |             |
|---|-------------|
| <b>Specific hazards arising from the chemical</b> | None known. |
|---|-------------|

**Special protective actions for fire-fighters**

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

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

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

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

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

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

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

**Precautions to prevent secondary hazards**

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

## **SECTION 7: Handling and storage**

**Precautions for safe handling**

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

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

**Storage Conditions** Store according to product and label instructions.

**Incompatible materials** None known based on information supplied.

## **SECTION 8: Exposure controls/personal protection**

**Control parameters**

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

**Biological occupational exposure limits**

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

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

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

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

**Skin and body protection** Wear suitable protective clothing.

**Hand protection** Wear suitable gloves.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are

exceeded or irritation is experienced, ventilation and evacuation may be required.

**Environmental exposure controls** No information available.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

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

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     |                   | None known              |
| Melting point / freezing point         | 0 °C              |                         |
| Boiling point / boiling range          | 100 °C            |                         |
| Flash point                            | No data available | None known              |
| Evaporation rate                       | No data available | None known              |
| Flammability (solid, gas)              | No data available | None known              |
| Flammability Limit in Air              |                   | None known              |
| Upper flammability or explosive limits | No data available |                         |
| Lower flammability or explosive limits | No data available |                         |
| Vapour pressure                        | No data available | None known              |
| Vapour density                         | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Miscible in water |                         |
| Solubility(ies)                        | No data available | None known              |
| Partition coefficient                  | No data available | None known              |
| Autoignition temperature               | No data available | None known              |
| Decomposition temperature              |                   | None known              |
| Kinematic viscosity                    | No data available | None known              |
| Dynamic viscosity                      | No data available | None known              |
| Explosive properties                   | Not applicable    |                         |
| Oxidising properties                   | Not applicable    |                         |

### Other information

|                  |                |
|------------------|----------------|
| Molecular weight | Not applicable |
| VOC content      | Not applicable |

## SECTION 10: Stability and reactivity

### Reactivity

**Reactivity** No information available.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

### Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal processing.

### Conditions to avoid

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** None known based on information supplied.

**Hazardous decomposition products**

**Hazardous decomposition products** None known based on information supplied.

## **SECTION 11: Toxicological information**

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information**

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

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

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

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

*See section 16 for terms and abbreviations*

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

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

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

**Respiratory or skin sensitisation** 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.

## **SECTION 12: Ecological information**

**Ecotoxicity**

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

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

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

**SECTION 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.

**SECTION 14: Transport information**

**ADG** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

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

**SECTION 15: Regulatory information**

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

**National regulations**

**Australia**

See section 8 for national exposure control parameters

**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**

No poisons schedule number allocated

**International Inventories**

Contact supplier for inventory compliance status

### **International Regulations**

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

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

**The Rotterdam Convention** Not applicable

## **SECTION 16: Other information**

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

**Revision date** 16-Aug-2022

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

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

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

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
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

### **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

According to WHS Regulations

Revision date 16-Aug-2022

Revision Number 1.1

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

### Product identifier

**Product Name** Opti-4CN Diluent

**Catalogue Number(s)** 9703212

### Other means of identification

**Pure substance/mixture** Mixture

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

**Recommended use** Laboratory chemicals

**Uses advised against** No information available

### Details of manufacturer or importer

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
u1A, 62 Ferndell Street,  
South Granville NSW 2142  
Australia

For further information, please contact

**Technical Service** +61 2 9914 2800 or 1800 224 354  
sales.australia@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Australia: 61-290372994

**Emergency telephone number** No information available

## SECTION 2: Hazards identification

### GHS Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified

### Other hazards which do not result in classification

## SECTION 3: Composition/information on ingredients

### Substance

Not applicable

**Mixture**

| Chemical name             | CAS No      | Weight-%    |
|---------------------------|-------------|-------------|
| Hydrogen peroxide         | 7722-84-1   | 0.1 - 0.299 |
| Non-hazardous ingredients | Proprietary | Balance     |

**SECTION 4: First aid measures****Description of first aid measures**

|                                   |  |
|-----------------------------------|--|
| <b>General advice</b>             | No hazards which require special first aid measures.   |
| <b>Emergency telephone number</b> | Poisons Information Centre, Australia: 13 11 26<br>Poisons Information Centre, New Zealand: 0800 764 766             |
| <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 doctor. |
| <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 doctors</b> | Treat symptomatically. |
|------------------------|------------------------|

**SECTION 5: Firefighting measures****Suitable Extinguishing Media**

|                                     |   |
|-------------------------------------|---|
| <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. |
|---------------------------------------|---------------------------|

**Specific hazards arising from the chemical**

|   |             |
|---|-------------|
| <b>Specific hazards arising from the chemical</b> | None known. |
|---|-------------|

**Special protective actions for fire-fighters**

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

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

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

**For emergency responders** Use personal protection recommended in Section 8.

#### **Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

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

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

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

#### **Precautions to prevent secondary hazards**

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

### **SECTION 7: Handling and storage**

#### **Precautions for safe handling**

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

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

**Storage Conditions** Store according to product and label instructions.

**Incompatible materials** None known based on information supplied.

### **SECTION 8: Exposure controls/personal protection**

#### **Control parameters**

##### **Exposure Limits**

| Chemical name                  | Australia                      | ACGIH TLV  |
|--------------------------------|--------------------------------|------------|
| Hydrogen peroxide<br>7722-84-1 | 1 ppm<br>1.4 mg/m <sup>3</sup> | TWA: 1 ppm |

#### **Biological occupational exposure limits**

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

#### **Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

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

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

**Skin and body protection** Wear suitable protective clothing.

**Hand protection** Wear suitable gloves.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Environmental exposure controls** No information available.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

|                        |                          |
|------------------------|--------------------------|
| <b>Physical state</b>  | Liquid                   |
| <b>Appearance</b>      | aqueous solution         |
| <b>Colour</b>          | colourless               |
| <b>Odour</b>           | Odourless.               |
| <b>Odour threshold</b> | No information available |

| <u>Property</u>                               | <u>Values</u>     | <u>Remarks • Method</u> |
|---|-------------------|-------------------------|
| <b>pH</b>                                     |                   | None known              |
| <b>Melting point / freezing point</b>         | 0 °C              |                         |
| <b>Boiling point / boiling range</b>          | > 100 °C          |                         |
| <b>Flash point</b>                            | No data available | None known              |
| <b>Evaporation rate</b>                       | No data available | None known              |
| <b>Flammability (solid, gas)</b>              | No data available | None known              |
| <b>Flammability Limit in Air</b>              |                   | None known              |
| <b>Upper flammability or explosive limits</b> | No data available |                         |
| <b>Lower flammability or explosive limits</b> | No data available |                         |
| <b>Vapour pressure</b>                        | No data available | None known              |
| <b>Vapour density</b>                         | No data available | None known              |
| <b>Relative density</b>                       | No data available | None known              |
| <b>Water solubility</b>                       | Miscible in water |                         |
| <b>Solubility(ies)</b>                        | No data available | None known              |
| <b>Partition coefficient</b>                  | No data available | None known              |
| <b>Autoignition temperature</b>               | No data available | None known              |
| <b>Decomposition temperature</b>              |                   | None known              |
| <b>Kinematic viscosity</b>                    | No data available | None known              |
| <b>Dynamic viscosity</b>                      | No data available | None known              |
| <b>Explosive properties</b>                   | Not applicable    |                         |
| <b>Oxidising properties</b>                   | Not applicable    |                         |

### Other information

|                         |                |
|-------------------------|----------------|
| <b>Molecular weight</b> | Not applicable |
| <b>VOC content</b>      | Not applicable |

## SECTION 10: Stability and reactivity

### Reactivity

**Reactivity** No information available.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

### Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** None known based on information supplied.

**Hazardous decomposition products**

**Hazardous decomposition products** None known based on information supplied.

## SECTION 11: Toxicological information

**Acute toxicity****Information on likely routes of exposure****Product Information**

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

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

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

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

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

ATEmix (oral) 86,734.70 mg/kg

| Chemical name     | Oral LD50            | Dermal LD50             | Inhalation LC50                      |
|-------------------|----------------------|-------------------------|--------------------------------------|
| Hydrogen peroxide | = 1518 mg/kg ( Rat ) | = 9200 mg/kg ( Rabbit ) | = 2000 mg/m <sup>3</sup> ( Rat ) 4 h |

See section 16 for terms and abbreviations

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

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

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

**Respiratory or skin sensitisation** 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.

**SECTION 12: Ecological information****Ecotoxicity****Ecotoxicity**

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

| Chemical name     | Algae/aquatic plants | Fish   | Toxicity to microorganisms | Crustacea                              |
|-------------------|----------------------|--|----------------------------|--|
| Hydrogen peroxide | -                    | LC50: 10.0 - 32.0mg/L (96h, Oncorhynchus mykiss)<br>LC50: 18 - 56mg/L (96h, Lepomis macrochirus)<br>LC50: =16.4mg/L (96h, Pimephales promelas) | -                          | EC50: 18 - 32mg/L (48h, Daphnia magna) |

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

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

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

**SECTION 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.

**SECTION 14: Transport information**

**ADG** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

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

## SECTION 15: Regulatory information

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

#### National regulations

##### Australia

See section 8 for national exposure control parameters

##### **Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**

Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

**Poison Schedule Number** 6

#### International Inventories

Contact supplier for inventory compliance status

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

## SECTION 16: Other information

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

**Revision date** 16-Aug-2022

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

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (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

**Disclaimer**

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**End of Safety Data Sheet**





# SAFETY DATA SHEET

According to WHS Regulations

Revision date 16-Aug-2022

Revision Number 1.1

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

### Product identifier

**Product Name** Opti-4CN Substrate

**Catalogue Number(s)** 9703210

### Other means of identification

**Proper shipping name** FLAMMABLE LIQUID, N.O.S. (Ethyl alcohol)

**UN number** UN1993

**Pure substance/mixture** Mixture

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

**Recommended use** Laboratory chemicals

**Uses advised against** No information available

### Details of manufacturer or importer

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
u1A, 62 Ferndell Street,  
South Granville NSW 2142  
Australia

For further information, please contact

**Technical Service** +61 2 9914 2800 or 1800 224 354  
sales.australia@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Australia: 61-290372994

**Emergency telephone number** No information available

## SECTION 2: Hazards identification

### GHS Classification

|                          |                     |
|--------------------------|---------------------|
| <b>Flammable liquids</b> | Category 2 - (H225) |
|--------------------------|---------------------|

### Label elements

Flame



**Signal word**  
Danger

**Hazard statements**

H225 - Highly flammable liquid and vapour

**Precautionary Statements - Prevention**

Ground and bond container and receiving equipment

Use non-sparking tools

Take action to prevent static discharges

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

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

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**

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

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

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

**SECTION 3: Composition/information on ingredients****Substance**

Not applicable

**Mixture**

| Chemical name             | CAS No      | Weight-% |
|---------------------------|-------------|----------|
| Ethyl alcohol             | 64-17-5     | 50 - 100 |
| Dimethyl sulfoxide        | 67-68-5     | 35 - 50  |
| 1-Naphthalenol, 4-chloro- | 604-44-4    | 1 - 2.5  |
| Non-hazardous ingredients | Proprietary | Balance  |

**SECTION 4: First aid measures****Description of first aid measures****General advice**

No hazards which require special first aid measures.

**Emergency telephone number**

Poisons Information Centre, Australia: 13 11 26

Poisons Information Centre, New Zealand: 0800 764 766

**Inhalation**

Remove to fresh air.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes.

**Ingestion** Rinse mouth thoroughly with water.

**Self-protection of the first aider** Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information.

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

**Symptoms** Prolonged contact may cause redness and irritation.

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

**Note to doctors** Treat symptomatically.

### **SECTION 5: Firefighting measures**

#### **Suitable Extinguishing Media**

**Suitable Extinguishing Media** Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray. Alcohol resistant foam.

**Unsuitable extinguishing media** No information available.

#### **Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

#### **Special protective actions for fire-fighters**

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

### **SECTION 6: Accidental release measures**

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

**Personal precautions** Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

**Other information** Ventilate the area.

**For emergency responders** Use personal protection recommended in Section 8.

#### **Environmental precautions**

**Environmental precautions** Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

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

**Methods for containment** Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

**Methods for cleaning up** Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.

**Precautions to prevent secondary hazards**

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

**SECTION 7: Handling and storage**

**Precautions for safe handling**

**Advice on safe handling** Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapours or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store according to product and label instructions.

**Incompatible materials** None known based on information supplied.

**SECTION 8: Exposure controls/personal protection**

**Control parameters**

**Exposure Limits**

| Chemical name            | Australia                          | ACGIH TLV      |
|--------------------------|------------------------------------|----------------|
| Ethyl alcohol<br>64-17-5 | 1000 ppm<br>1880 mg/m <sup>3</sup> | STEL: 1000 ppm |

**Biological occupational exposure limits**

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

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

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

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

|  |  |
|--|--|
| <b>Hand protection</b>                 | Wear suitable gloves. Impervious gloves.   |
| <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>Environmental exposure controls</b> | No information available.  |

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

|                        |                          |
|------------------------|--------------------------|
| <b>Physical state</b>  | Liquid                   |
| <b>Appearance</b>      | Liquid                   |
| <b>Colour</b>          | Varies                   |
| <b>Odour</b>           | Alcohol.                 |
| <b>Odour threshold</b> | No information available |

| <u>Property</u>                               | <u>Values</u>     | <u>Remarks • Method</u> |
|---|-------------------|-------------------------|
| <b>pH</b>                                     |                   | None known              |
| <b>Melting point / freezing point</b>         | No data available | None known              |
| <b>Boiling point / boiling range</b>          | 78 °C             |                         |
| <b>Flash point</b>                            | 13 °C             |                         |
| <b>Evaporation rate</b>                       | No data available | None known              |
| <b>Flammability (solid, gas)</b>              | No data available | None known              |
| <b>Flammability Limit in Air</b>              |                   | None known              |
| <b>Upper flammability or explosive limits</b> | No data available |                         |
| <b>Lower flammability or explosive limits</b> | No data available |                         |
| <b>Vapour pressure</b>                        | No data available | None known              |
| <b>Vapour density</b>                         | No data available | None known              |
| <b>Relative density</b>                       | No data available | None known              |
| <b>Water solubility</b>                       | Miscible in water |                         |
| <b>Solubility(ies)</b>                        | No data available | None known              |
| <b>Partition coefficient</b>                  | No data available | None known              |
| <b>Autoignition temperature</b>               | No data available | None known              |
| <b>Decomposition temperature</b>              |                   | None known              |
| <b>Kinematic viscosity</b>                    | No data available | None known              |
| <b>Dynamic viscosity</b>                      | No data available | None known              |
| <b>Explosive properties</b>                   | Not applicable    |                         |
| <b>Oxidising properties</b>                   | Not applicable    |                         |

### Other information

|                         |                |
|-------------------------|----------------|
| <b>Molecular weight</b> | Not applicable |
| <b>VOC content</b>      | Not applicable |

## SECTION 10: Stability and reactivity

### Reactivity

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

### Chemical stability

|                  |                                 |
|------------------|---------------------------------|
| <b>Stability</b> | Stable under normal conditions. |
|------------------|---------------------------------|

### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** Yes.

### Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** Heat, flames and sparks.

**Incompatible materials**

**Incompatible materials** None known based on information supplied.

**Hazardous decomposition products**

**Hazardous decomposition products** None known based on information supplied.

## **SECTION 11: Toxicological information**

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information**

**Inhalation** May be harmful if inhaled.

**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. Causes mild skin irritation.

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** Prolonged contact may cause redness and irritation.

**Numerical measures of toxicity - Product Information**

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

**ATEmix (oral)** 9,379.60 mg/kg

**ATEmix (dermal)** 40,812.60 mg/kg

**ATEmix (inhalation-dust/mist)** 118.90 mg/l

**Component Information**

| Chemical name      | Oral LD50             | Dermal LD50           | Inhalation LC50                                      |
|--------------------|-----------------------|-----------------------|--|
| Ethyl alcohol      | = 7060 mg/kg ( Rat )  | -                     | = 116.9 mg/L ( Rat ) 4 h<br>= 133.8 mg/L ( Rat ) 4 h |
| Dimethyl sulfoxide | = 28300 mg/kg ( Rat ) | = 40000 mg/kg ( Rat ) | > 5.33 mg/L ( Rat ) 4 h                              |

See section 16 for terms and abbreviations

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

**Skin corrosion/irritation** Classification based on data available for ingredients. May cause skin irritation.

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

**Respiratory or skin sensitisation** 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.

## SECTION 12: Ecological information

### Ecotoxicity

**Ecotoxicity** Toxic to aquatic life.

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

| Chemical name      | Algae/aquatic plants | Fish   | Toxicity to microorganisms | Crustacea  |
|--------------------|----------------------|--|----------------------------|--|
| Ethyl alcohol      | -                    | LC50: 12.0 - 16.0mg/L (96h, Oncorhynchus mykiss)<br>LC50: 13400 - 15100mg/L (96h, Pimephales promelas)<br>LC50: >100mg/L (96h, Pimephales promelas)                            | -                          | LC50: 9268 - 14221mg/L (48h, Daphnia magna)<br>EC50: =2mg/L (48h, Daphnia magna) |
| Dimethyl sulfoxide | -                    | LC50: 33 - 37g/L (96h, Oncorhynchus mykiss)<br>LC50: =34000mg/L (96h, Pimephales promelas)<br>LC50: =41.7g/L (96h, Cyprinus carpio)<br>LC50: >40g/L (96h, Lepomis macrochirus) | -                          | -  |

### Persistence and degradability

**Persistence and degradability** No information available.

### Bioaccumulative potential

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

### Component Information

| Chemical name      | Partition coefficient |
|--------------------|-----------------------|
| Ethyl alcohol      | -0.35                 |
| Dimethyl sulfoxide | -1.35                 |

### Mobility

**Mobility in soil** No information available.

**Mobility** No information available.

### Other adverse effects

**Other adverse effects** No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

|  |  |
|--|--|
| <b>Waste from residues/unused products</b> | Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| <b>Contaminated packaging</b>              | Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.  |

**SECTION 14: Transport information****ADG**

|                                   |   |
|-----------------------------------|---|
| <b>UN number</b>                  | UN1993  |
| <b>Proper shipping name</b>       | FLAMMABLE LIQUID, N.O.S. (Ethyl alcohol)                |
| <b>Transport hazard class(es)</b> | 3   |
| <b>Packing group</b>              | II  |
| <b>Special Provisions</b>         | 274   |
| <b>Description</b>                | UN1993, FLAMMABLE LIQUID, N.O.S. (Ethyl alcohol), 3, II |

**IATA**

|                                   |   |
|-----------------------------------|---|
| <b>UN number or ID number</b>     | UN1993  |
| <b>UN proper shipping name</b>    | Medicines, flammable, liquid, n.o.s. (Ethyl alcohol)                |
| <b>Transport hazard class(es)</b> | 3   |
| <b>Packing group</b>              | II  |
| <b>ERG Code</b>                   | 3H  |
| <b>Special Provisions</b>         | A3  |
| <b>Description</b>                | UN1993, Medicines, flammable, liquid, n.o.s. (Ethyl alcohol), 3, II |

**IMDG**

|                                   |  |
|-----------------------------------|--|
| <b>UN number or ID number</b>     | UN1993   |
| <b>UN proper shipping name</b>    | FLAMMABLE LIQUID, N.O.S. (Ethyl alcohol)                             |
| <b>Transport hazard class(es)</b> | 3  |
| <b>Packing group</b>              | II   |
| <b>EmS-No</b>                     | F-E, S-E   |
| <b>Special Provisions</b>         | 274  |
| <b>Marine pollutant</b>           | NP   |
| <b>Description</b>                | UN1993, FLAMMABLE LIQUID, N.O.S. (Ethyl alcohol), 3, II, (13°C C.C.) |

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

No information available

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

See section 8 for national exposure control parameters

**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**

Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

**Major hazard (accident/incident planning) regulation**

Verify that licence requirements are met

**Hazardous chemical**

Liquids that meet the criteria for Class 3 Packing Group II or III  
 Liquids with flash points <61°C kept above their boiling points at ambient conditions

**Threshold quantity (T)**

50 000  
 200

**National pollutant inventory**



Subject to reporting requirement

| Chemical name                | National pollutant inventory  |
|------------------------------|---|
| Ethyl alcohol - 64-17-5      | 10 tonne/yr Threshold category 1  |
| Dimethyl sulfoxide - 67-68-5 | 20 MW Threshold category 2b total<br>60000 MWH Threshold category 2b total<br>1 tonne/h Threshold category 2a total<br>25 tonne/yr Threshold category 1a total<br>400 tonne/yr Threshold category 2a total<br>2000 tonne/yr Threshold category 2b total |

**International Inventories**

Contact supplier for inventory compliance status

**International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**SECTION 16: Other information****Prepared By** Bio-Rad Laboratories, Environmental Health and Safety**Revision date** 16-Aug-2022**Revision Note** Reformatted and updated existing information.**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (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

**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

According to WHS Regulations

Revision date 16-Aug-2022

Revision Number 1.1

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

### Product identifier

**Product Name** 2X Amplification Diluent

**Catalogue Number(s)** 9703205

### Other means of identification

**Pure substance/mixture** Mixture

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

**Recommended use** Laboratory chemicals

**Uses advised against** No information available

### Details of manufacturer or importer

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
u1A, 62 Ferndell Street,  
South Granville NSW 2142  
Australia

For further information, please contact

**Technical Service** +61 2 9914 2800 or 1800 224 354  
sales.australia@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Australia: 61-290372994

**Emergency telephone number** No information available

## SECTION 2: Hazards identification

### GHS Classification

|                              |                      |
|------------------------------|----------------------|
| <b>Carcinogenicity</b>       | Category 1B - (H350) |
| <b>Reproductive toxicity</b> | Category 1B - (H360) |

### Label elements

Health hazard



**Signal word**  
Danger

**Hazard statements**  
H350 - May cause cancer  
H360 - May damage fertility or the unborn child

**Precautionary Statements - Prevention**  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**  
IF exposed or concerned: Get medical advice/attention

**Precautionary Statements - Disposal**  
Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

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

### SECTION 3: Composition/information on ingredients

**Substance**

Not applicable

**Mixture**

| Chemical name                                | CAS No      | Weight-%    |
|--|-------------|-------------|
| Boric acid (H <sub>3</sub> BO <sub>3</sub> ) | 10043-35-3  | 0.3 - 0.999 |
| Non-hazardous ingredients                    | Proprietary | Balance     |

### SECTION 4: First aid measures

**Description of first aid measures**

|                                   |   |
|-----------------------------------|---|
| <b>General advice</b>             | IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.   |
| <b>Emergency telephone number</b> | Poisons Information Centre, Australia: 13 11 26<br>Poisons Information Centre, New Zealand: 0800 764 766          |
| <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 doctor. |
| <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**

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

### SECTION 5: Firefighting measures

**Suitable Extinguishing Media**

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

surrounding environment.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

## **SECTION 6: Accidental release measures**

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

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

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

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

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

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

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

**Precautions to prevent secondary hazards**

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

## **SECTION 7: Handling and storage**

**Precautions for safe handling**

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

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

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

**Storage Conditions** Store locked up. Store according to product and label instructions.

**Incompatible materials** None known based on information supplied.

## **SECTION 8: Exposure controls/personal protection**

**Control parameters**

**Exposure Limits**

| Chemical name  | Australia | ACGIH TLV   |
|--|-----------|---|
| Boric acid (H <sub>3</sub> BO <sub>3</sub> )<br>10043-35-3 |           | STEL: 6 mg/m <sup>3</sup> inhalable particulate matter<br>TWA: 2 mg/m <sup>3</sup> inhalable particulate matter |

**Biological occupational exposure limits**

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

**Appropriate engineering controls**

**Engineering controls**                      Showers  
    Eyewash stations  
    Ventilation systems.

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

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

**Skin and body protection**                      Wear suitable protective clothing.

**Hand protection**                              Wear suitable gloves.

**Respiratory protection**                      No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Environmental exposure controls**                      No information available.

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties**

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

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     |                   | None known              |
| Melting point / freezing point         | 0 °C              |                         |
| Boiling point / boiling range          | >= 100 °C         |                         |
| Flash point                            | No data available | None known              |
| Evaporation rate                       | No data available | None known              |
| Flammability (solid, gas)              | No data available | None known              |
| Flammability Limit in Air              |                   | None known              |
| Upper flammability or explosive limits | No data available |                         |
| Lower flammability or explosive limits | No data available |                         |
| Vapour pressure                        | No data available | None known              |
| Vapour density                         | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Miscible in water |                         |
| Solubility(ies)                        | No data available | None known              |
| Partition coefficient                  | No data available | None known              |
| Autoignition temperature               | No data available | None known              |
| Decomposition temperature              |                   | None known              |
| Kinematic viscosity                    | No data available | None known              |

|                      |                   |            |
|----------------------|-------------------|------------|
| Dynamic viscosity    | No data available | None known |
| Explosive properties | Not applicable    |            |
| Oxidising properties | Not applicable    |            |

**Other information**

|                  |                |
|------------------|----------------|
| Molecular weight | Not applicable |
| VOC content      | Not applicable |

**SECTION 10: Stability and reactivity****Reactivity**

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

**Chemical stability**

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

**Explosion data**

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

**Possibility of hazardous reactions**

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

**Conditions to avoid**

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

**Incompatible materials**

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

**Hazardous decomposition products**

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

**SECTION 11: Toxicological information****Acute toxicity****Information on likely routes of exposure****Product Information**

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

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

**Numerical measures of toxicity - Product Information**

**Component Information**

| Chemical name      | Oral LD50            | Dermal LD50             | Inhalation LC50         |
|--------------------|----------------------|-------------------------|-------------------------|
| Boric acid (H3BO3) | = 2660 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | > 2.12 mg/L ( Rat ) 4 h |

See section 16 for terms and abbreviations

**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 sensitisation</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>                   | Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.                                 |
| <b>Reproductive toxicity</b>             | Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child. |
| <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.   |

**SECTION 12: Ecological information****Ecotoxicity****Ecotoxicity**

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

| Chemical name      | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea                                |
|--------------------|----------------------|------|----------------------------|--|
| Boric acid (H3BO3) | -                    | -    | -                          | EC50: 115 - 153mg/L (48h, Daphnia magna) |

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

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

**Component Information**

| Chemical name      | Partition coefficient |
|--------------------|-----------------------|
| Boric acid (H3BO3) | -1.09                 |

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**



Other adverse effects No information available.

### SECTION 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.

### SECTION 14: Transport information

**ADG** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

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

### SECTION 15: Regulatory information

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

##### National regulations

###### Australia

See section 8 for national exposure control parameters

###### **Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**

Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

**Poison Schedule Number** 5

###### **National pollutant inventory**

Subject to reporting requirement

| Chemical name                   | National pollutant inventory     |
|---------------------------------|----------------------------------|
| Boric acid (H3BO3) - 10043-35-3 | 10 tonne/yr Threshold category 1 |

###### International Inventories

Contact supplier for inventory compliance status

###### International Regulations

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

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

**The Rotterdam Convention** Not applicable

### SECTION 16: Other information

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

Revision date 16-Aug-2022

Revision Note Reformatted and updated existing information.

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGl(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
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

**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

According to WHS Regulations

Revision date 16-Aug-2022

Revision Number 1.1

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

### Product identifier

**Product Name** Phosphate Buffered Saline

**Catalogue Number(s)** 9703261

### Other means of identification

**Pure substance/mixture** Mixture

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

**Recommended use** Laboratory chemicals

**Uses advised against** No information available

### Details of manufacturer or importer

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
u1A, 62 Ferndell Street,  
South Granville NSW 2142  
Australia

For further information, please contact

**Technical Service** +61 2 9914 2800 or 1800 224 354  
sales.australia@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Australia: 61-290372994

**Emergency telephone number** No information available

## SECTION 2: Hazards identification

### GHS Classification

Not classified

### Label elements

#### **Hazard statements**

Not classified

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

May be harmful if swallowed

## SECTION 3: Composition/information on ingredients

**Substance**

Not applicable

**Mixture**

| Chemical name             | CAS No      | Weight-% |
|---------------------------|-------------|----------|
| Sodium chloride           | 7647-14-5   | 50 - 100 |
| Sodium phosphate dibasic  | 7558-79-4   | 20 - 35  |
| Non-hazardous ingredients | Proprietary | Balance  |

**SECTION 4: First aid measures****Description of first aid measures**

|                                   |  |
|-----------------------------------|--|
| <b>General advice</b>             | No hazards which require special first aid measures.   |
| <b>Emergency telephone number</b> | Poisons Information Centre, Australia: 13 11 26<br>Poisons Information Centre, New Zealand: 0800 764 766             |
| <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 doctor. |
| <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 doctors</b> | Treat symptomatically. |
|------------------------|------------------------|

**SECTION 5: Firefighting measures****Suitable Extinguishing Media**

|                                     |   |
|-------------------------------------|---|
| <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. |
|---------------------------------------|---------------------------|

**Specific hazards arising from the chemical**

|   |             |
|---|-------------|
| <b>Specific hazards arising from the chemical</b> | None known. |
|---|-------------|

**Special protective actions for fire-fighters**

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

**SECTION 6: Accidental release measures**

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

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

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

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

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

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

**Precautions to prevent secondary hazards**

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

**SECTION 7: Handling and storage****Precautions for safe handling**

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

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

**Storage Conditions** Store according to product and label instructions.

**Incompatible materials** None known based on information supplied.

**SECTION 8: Exposure controls/personal protection****Control parameters**

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

**Biological occupational exposure limits**

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

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

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

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

**Skin and body protection** Wear suitable protective clothing.

**Hand protection** Wear suitable gloves.

|  |  |
|--|--|
| <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>Environmental exposure controls</b> | No information available.  |

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

|                        |                          |
|------------------------|--------------------------|
| <b>Physical state</b>  | Solid                    |
| <b>Appearance</b>      | solid                    |
| <b>Colour</b>          | white                    |
| <b>Odour</b>           | Odourless.               |
| <b>Odour threshold</b> | No information available |

| <u>Property</u>                               | <u>Values</u>     | <u>Remarks • Method</u> |
|---|-------------------|-------------------------|
| <b>pH</b>                                     |                   | None known              |
| <b>Melting point / freezing point</b>         | No data available | None known              |
| <b>Boiling point / boiling range</b>          | 1461 °C           |                         |
| <b>Flash point</b>                            | No data available | None known              |
| <b>Evaporation rate</b>                       | No data available | None known              |
| <b>Flammability (solid, gas)</b>              | No data available | None known              |
| <b>Flammability Limit in Air</b>              |                   | None known              |
| <b>Upper flammability or explosive limits</b> | No data available |                         |
| <b>Lower flammability or explosive limits</b> | No data available |                         |
| <b>Vapour pressure</b>                        | No data available | None known              |
| <b>Vapour density</b>                         | No data available | None known              |
| <b>Relative density</b>                       | No data available | None known              |
| <b>Water solubility</b>                       | Soluble in water  |                         |
| <b>Solubility(ies)</b>                        | No data available | None known              |
| <b>Partition coefficient</b>                  | No data available | None known              |
| <b>Autoignition temperature</b>               | No data available | None known              |
| <b>Decomposition temperature</b>              |                   | None known              |
| <b>Kinematic viscosity</b>                    | No data available | None known              |
| <b>Dynamic viscosity</b>                      | No data available | None known              |
| <b>Explosive properties</b>                   | Not applicable    |                         |
| <b>Oxidising properties</b>                   | Not applicable    |                         |
| <b>Other information</b>                      |                   |                         |
| <b>Molecular weight</b>                       | Not applicable    |                         |
| <b>VOC content</b>                            | Not applicable    |                         |

## SECTION 10: Stability and reactivity

### Reactivity

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

### Chemical stability

|                  |                                 |
|------------------|---------------------------------|
| <b>Stability</b> | Stable under normal conditions. |
|------------------|---------------------------------|

### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

### Possibility of hazardous reactions

|   |                               |
|---|-------------------------------|
| <b>Possibility of hazardous reactions</b> | None under normal processing. |
|---|-------------------------------|

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** None known based on information supplied.

**Hazardous decomposition products**

**Hazardous decomposition products** None known based on information supplied.

**SECTION 11: Toxicological information****Acute toxicity****Information on likely routes of exposure****Product Information**

.

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

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

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

**Ingestion** May be harmful if swallowed

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

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

**ATEmix (oral)** 4,792.30 mg/kg

**Component Information**

| Chemical name            | Oral LD50         | Dermal LD50              | Inhalation LC50       |
|--------------------------|-------------------|--------------------------|-----------------------|
| Sodium chloride          | = 3 g/kg ( Rat )  | > 10000 mg/kg ( Rabbit ) | > 42 mg/L ( Rat ) 1 h |
| Sodium phosphate dibasic | = 17 g/kg ( Rat ) | -                        | -                     |

See section 16 for terms and abbreviations

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

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

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

**Respiratory or skin sensitisation** 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.

**SECTION 12: Ecological information****Ecotoxicity****Ecotoxicity****Unknown aquatic toxicity**

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

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

**Persistence and degradability****Persistence and degradability**

No information available.

**Bioaccumulative potential****Bioaccumulation**

No information available.

**Mobility****Mobility in soil**

No information available.

**Mobility**

No information available.

**Other adverse effects****Other adverse effects**

No information available.

**SECTION 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.

**SECTION 14: Transport information**



**ADG** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

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

## SECTION 15: Regulatory information

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

#### National regulations

##### Australia

See section 8 for national exposure control parameters

#### **Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**

Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

**Poison Schedule Number** 6

#### International Inventories

Contact supplier for inventory compliance status

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

## SECTION 16: Other information

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

**Revision date** 16-Aug-2022

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

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (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

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

According to WHS Regulations

Revision date 16-Aug-2022

Revision Number 1.1

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

### Product identifier

Product Name Blocking Reagent

Catalogue Number(s) 9703207

### Other means of identification

CAS No 9000-71-9

Pure substance/mixture Substance

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

Recommended use Laboratory chemicals

Uses advised against No information available

### Details of manufacturer or importer

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
u1A, 62 Ferndell Street,  
South Granville NSW 2142  
Australia

For further information, please contact

Technical Service +61 2 9914 2800 or 1800 224 354  
sales.australia@bio-rad.com

### Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Australia: 61-290372994

Emergency telephone number No information available

## SECTION 2: Hazards identification

### GHS Classification

Not classified

### Label elements

#### Hazard statements

Not classified

### Other hazards which do not result in classification

## SECTION 3: Composition/information on ingredients

**Substance**

| Chemical name | CAS No    | Weight-% |
|---------------|-----------|----------|
| Casein        | 9000-71-9 | 50 - 100 |

**SECTION 4: First aid measures****Description of first aid measures**

|                                   |  |
|-----------------------------------|--|
| <b>General advice</b>             | No hazards which require special first aid measures.   |
| <b>Emergency telephone number</b> | Poisons Information Centre, Australia: 13 11 26<br>Poisons Information Centre, New Zealand: 0800 764 766             |
| <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 doctor. |
| <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 doctors</b> | Treat symptomatically. |
|------------------------|------------------------|

**SECTION 5: Firefighting measures****Suitable Extinguishing Media**

|                                     |   |
|-------------------------------------|---|
| <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. |
|---------------------------------------|---------------------------|

**Specific hazards arising from the chemical**

|   |             |
|---|-------------|
| <b>Specific hazards arising from the chemical</b> | None known. |
|---|-------------|

**Special protective actions for fire-fighters**

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

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

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

**For emergency responders** Use personal protection recommended in Section 8.

#### **Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

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

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

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

#### **Precautions to prevent secondary hazards**

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

### **SECTION 7: Handling and storage**

#### **Precautions for safe handling**

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

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

**Storage Conditions** Store according to product and label instructions.

**Incompatible materials** None known based on information supplied.

### **SECTION 8: Exposure controls/personal protection**

#### **Control parameters**

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

#### **Biological occupational exposure limits**

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

#### **Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

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

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

**Skin and body protection** Wear suitable protective clothing.

**Hand protection** Wear suitable gloves.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Environmental exposure controls** No information available.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

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

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH                                     |                   | None known              |
| Melting point / freezing point         | No data available | None known              |
| Boiling point / boiling range          | No data available | None known              |
| Flash point                            | No data available | None known              |
| Evaporation rate                       | No data available | None known              |
| Flammability (solid, gas)              | No data available | None known              |
| Flammability Limit in Air              |                   | None known              |
| Upper flammability or explosive limits | No data available |                         |
| Lower flammability or explosive limits | No data available |                         |
| Vapour pressure                        | No data available | None known              |
| Vapour density                         | No data available | None known              |
| Relative density                       | No data available | None known              |
| Water solubility                       | Soluble in water  |                         |
| Solubility(ies)                        | No data available | None known              |
| Partition coefficient                  | No data available | None known              |
| Autoignition temperature               | No data available | None known              |
| Decomposition temperature              |                   | None known              |
| Kinematic viscosity                    | No data available | None known              |
| Dynamic viscosity                      | No data available | None known              |
| Explosive properties                   | Not applicable    |                         |
| Oxidising properties                   | Not applicable    |                         |
| <u>Other information</u>               |                   |                         |
| Molecular weight                       | Not applicable    |                         |
| VOC content                            | Not applicable    |                         |

## SECTION 10: Stability and reactivity

### Reactivity

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

### Chemical stability

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

### Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

### Possibility of hazardous reactions

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

### Conditions to avoid

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

### Incompatible materials

**Incompatible materials** None known based on information supplied.

**Hazardous decomposition products**

**Hazardous decomposition products** None known based on information supplied.

## **SECTION 11: Toxicological information**

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information**

.

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

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

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

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

No information available

*See section 16 for terms and abbreviations*

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

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

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

**Respiratory or skin sensitisation** 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.

## **SECTION 12: Ecological information**

**Ecotoxicity**

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

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

**SECTION 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.

**SECTION 14: Transport information**

**ADG** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

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

**SECTION 15: Regulatory information**

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

**National regulations**

**Australia**

See section 8 for national exposure control parameters

**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**

No poisons schedule number allocated

**International Inventories**

Contact supplier for inventory compliance status

**International Regulations**

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



The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

## SECTION 16: Other information

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

**Revision date** 16-Aug-2022

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

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

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

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
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

### 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**

Revision date 16-Aug-2022

Revision Number 1.1

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

### Product identifier

**Product Name** Streptavidin-HRP-FP106

**Catalogue Number(s)** 9703206

### Other means of identification

**Pure substance/mixture** Mixture

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

**Recommended use** Laboratory chemicals

**Uses advised against** No information available

### Details of manufacturer or importer

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
u1A, 62 Ferndell Street,  
South Granville NSW 2142  
Australia

For further information, please contact

**Technical Service** +61 2 9914 2800 or 1800 224 354  
sales.australia@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Australia: 61-290372994

**Emergency telephone number** No information available

## SECTION 2: Hazards identification

### GHS Classification

|                           |                     |
|---------------------------|---------------------|
| <b>Skin sensitisation</b> | Category 1 - (H317) |
|---------------------------|---------------------|

### Label elements

Exclamation mark



**Signal word**

Warning

**Hazard statements**

H317 - May cause an allergic skin reaction

**Precautionary Statements - Prevention**

Avoid breathing dust/fume/gas/mist/vapours/spray

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves/protective clothing/eye protection/face protection

IF ON SKIN: Wash with plenty of water and soap

If skin irritation or rash occurs: Get medical advice/attention

Take off all contaminated clothing and wash it before reuse

**Precautionary Statements - Disposal**

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

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

Contains animal source material (Cattle)

**SECTION 3: Composition/information on ingredients****Substance**

Not applicable

**Mixture**

| Chemical name             | CAS No      | Weight-%     |
|---------------------------|-------------|--------------|
| Sodium chloride           | 7647-14-5   | 2.5 - 5      |
| 2-Chloroacetamide         | 79-07-2     | 0.1 - 0.299  |
| Hydrochloric acid         | 7647-01-0   | 0.01 - 0.099 |
| Non-hazardous ingredients | Proprietary | Balance      |

**SECTION 4: First aid measures****Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance.

**Emergency telephone number**

Poisons Information Centre, Australia: 13 11 26

Poisons Information Centre, New Zealand: 0800 764 766

**Inhalation**

Remove to fresh air.

**Eye contact**

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

**Skin contact**

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

**Ingestion**

Rinse mouth thoroughly with water.

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

Itching. Rashes. Hives.

**Indication of any immediate medical attention and special treatment needed****Note to doctors**

May cause sensitisation in susceptible persons. Treat symptomatically.

**SECTION 5: Firefighting measures****Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

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

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

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

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

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

**Precautions to prevent secondary hazards**

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

**SECTION 7: Handling and storage****Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store according to product and label instructions.

**Incompatible materials** None known based on information supplied.

## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Exposure Limits

| Chemical name                  | Australia                                | ACGIH TLV      |
|--------------------------------|--|----------------|
| Hydrochloric acid<br>7647-01-0 | 5 ppm Peak<br>7.5 mg/m <sup>3</sup> Peak | Ceiling: 2 ppm |

#### Biological occupational exposure limits

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

### Appropriate engineering controls

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

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

|                                 |  |
|---------------------------------|--|
| Eye/face protection             | Wear safety glasses with side shields (or goggles).  |
| Skin and body protection        | Wear suitable protective clothing.   |
| Hand protection                 | Wear suitable gloves.  |
| Respiratory protection          | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| Environmental exposure controls | No information available.  |

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

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

| Property                               | Values            | Remarks • Method |
|--|-------------------|------------------|
| pH                                     |                   | None known       |
| Melting point / freezing point         | No data available | None known       |
| Boiling point / boiling range          | No data available | None known       |
| Flash point                            | No data available | None known       |
| Evaporation rate                       | No data available | None known       |
| Flammability (solid, gas)              | No data available | None known       |
| Flammability Limit in Air              |                   | None known       |
| Upper flammability or explosive limits | No data available |                  |
| Lower flammability or explosive limits | No data available |                  |
| Vapour pressure                        | No data available | None known       |
| Vapour density                         | No data available | None known       |
| Relative density                       | No data available | None known       |
| Water solubility                       | Miscible in water |                  |
| Solubility(ies)                        | No data available | None known       |

|                           |                   |            |
|---------------------------|-------------------|------------|
| Partition coefficient     | No data available | None known |
| Autoignition temperature  | No data available | None known |
| Decomposition temperature |                   | None known |
| Kinematic viscosity       | No data available | None known |
| Dynamic viscosity         | No data available | None known |
| Explosive properties      | Not applicable    |            |
| Oxidising properties      | Not applicable    |            |
| <b>Other information</b>  |                   |            |
| Molecular weight          | Not applicable    |            |
| VOC content               | Not applicable    |            |

## SECTION 10: Stability and reactivity

### Reactivity

**Reactivity** No information available.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

### Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal processing.

### Conditions to avoid

**Conditions to avoid** None known based on information supplied.

### Incompatible materials

**Incompatible materials** None known based on information supplied.

### Hazardous decomposition products

**Hazardous decomposition products** None known based on information supplied.

## SECTION 11: Toxicological information

### Acute toxicity

### Information on likely routes of exposure

#### Product Information

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

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

**Skin contact** May cause sensitisation by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components).

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** Itching. Rashes. Hives.

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document  
 ATEmix (oral) 33,603.00 mg/kg

**Component Information**

| Chemical name     | Oral LD50               | Dermal LD50              | Inhalation LC50         |
|-------------------|-------------------------|--------------------------|-------------------------|
| Sodium chloride   | = 3 g/kg ( Rat )        | > 10000 mg/kg ( Rabbit ) | > 42 mg/L ( Rat ) 1 h   |
| 2-Chloroacetamide | = 138 mg/kg ( Rat )     | > 2000 mg/kg ( Rat )     | -                       |
| Hydrochloric acid | 238 - 277 mg/kg ( Rat ) | > 5010 mg/kg ( Rabbit )  | = 1.68 mg/L ( Rat ) 1 h |

See section 16 for terms and abbreviations

**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 sensitisation</b> | May cause sensitisation by skin contact.                          |
| <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. |

**SECTION 12: Ecological information****Ecotoxicity****Ecotoxicity**

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

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

|  |  |   |  |  |
|--|--|---|--|--|
|  |  | Lepomis macrochirus)<br>LC50: =7050mg/L (96h,<br>Pimephales promelas) |  |  |
|--|--|---|--|--|

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

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

**Component Information**

| Chemical name     | Partition coefficient |
|-------------------|-----------------------|
| 2-Chloroacetamide | -0.63                 |

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

**SECTION 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.

**SECTION 14: Transport information**

**ADG** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

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

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

See section 8 for national exposure control parameters

**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**

Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

**Poison Schedule Number**

6



**Major hazard (accident/incident planning) regulation**

Verify that licence requirements are met

Named hazardous chemicals

| Chemical name                 | Threshold quantity (T)                                     |
|-------------------------------|--|
| Hydrochloric acid - 7647-01-0 | 250 tonne TQ anhydrous<br>250 tonne TQ refrigerated liquid |

**National pollutant inventory**

Subject to reporting requirement

| Chemical name                 | National pollutant inventory   |
|-------------------------------|--|
| Hydrochloric acid - 7647-01-0 | 10 tonne/yr Threshold category 1<br>400 tonne/yr Threshold category 2a<br>1 tonne/h Threshold category 2a<br>2000 tonne/yr Threshold category 2b<br>60000 MWH Threshold category 2b<br>20 MW Threshold category 2b |

**International Inventories**

Contact supplier for inventory compliance status

**International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**SECTION 16: Other information****Prepared By** Bio-Rad Laboratories, Environmental Health and Safety**Revision date** 16-Aug-2022**Revision Note** Reformatted and updated existing information.**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGL(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 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

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**End of Safety Data Sheet**