

# KIT SAFETY DATA SHEET



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

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

**Revision date** 05-Apr-2022

## Kit Contents

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



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 24-Aug-2021

Revision Number 1.1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Nuclease-Free Water

### Other means of identification

**Catalogue Number(s)** 8006877

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

**CAS No** 7732-18-5

Chemical name	CAS No	Weight-%
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Water 7732-18-5	7732-18-5	100
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#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
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#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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##### Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
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##### Special protective actions for fire-fighters

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

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

Personal precautions	Ensure adequate ventilation.
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##### Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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##### Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
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**Methods for cleaning up** Pick up and transfer to properly labeled containers.

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid	Odour	Odourless
Appearance	clear liquid	Odour threshold	No information available
Colour	colourless		
Property	Values	Remarks • Method	
pH	7		
Melting point / freezing point	0 °C / 32 °F		
Boiling point / boiling range	100 °C / 212 °F		
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	

Relative density	No information available
Solubility(ies)	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

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

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

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the 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.
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**Acute toxicity****Numerical measures of toxicity**

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

Disposal methods

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixtureInternational Regulations

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

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

**The Rotterdam Convention** Not applicable

International Inventories

Contact supplier for inventory compliance status

**16. OTHER INFORMATION**

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

**Revision date** 24-Aug-2021

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

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other

materials or in any process, unless specified in the text

**End of Safety Data Sheet**





# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 24-Aug-2021

Revision Number 2.1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Sterile Water

### Other means of identification

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

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

**CAS No** 7732-18-5

Chemical name	CAS No	Weight-%
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Water 7732-18-5	7732-18-5	100
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#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
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#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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##### Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
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##### Special protective actions for fire-fighters

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

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

Personal precautions	Ensure adequate ventilation.
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##### Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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##### Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
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**Methods for cleaning up** Pick up and transfer to properly labeled containers.

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid	Odour	Odourless
Appearance	clear liquid	Odour threshold	No information available
Colour	colourless		
Property	Values	Remarks • Method	
pH	7		
Melting point / freezing point	0 °C / 32 °F		
Boiling point / boiling range	100 °C / 212 °F		
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	

Relative density	No information available
Solubility(ies)	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

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

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

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the 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.
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**Acute toxicity****Numerical measures of toxicity**

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

## 12. ECOLOGICAL INFORMATION

**Toxicity**

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

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

## 13. DISPOSAL CONSIDERATIONS

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

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

**Contaminated packaging**

Do not reuse empty containers.

**14. TRANSPORT INFORMATION**IMDG

Not regulated

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

No information available

IATA

Not regulated

RID

Not regulated

ADR

Not regulated

ADN

Not regulated

**Special precautions for user**

Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixtureInternational 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 applicableInternational Inventories

Contact supplier for inventory compliance status

**16. OTHER INFORMATION****Prepared By**

Bio-Rad Laboratories, Environmental Health and Safety

**Revision date**

24-Aug-2021

**Revision Note**

Reformatted and updated existing information.

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling

Maximum limit value

\*

Skin designation

C

Carcinogen

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other

materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 24-Aug-2021

Revision Number 1.1

## 1. IDENTIFICATION

### Product identifier

**Product Name** C-Growth Medium

### Other means of identification

**Catalogue Number(s)** 10012354

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
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Parkwood, Johannesburg 2193  
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South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

**CAS No** 7732-18-5

Chemical name	CAS No	Weight-%
---------------	--------	----------



Water 7732-18-5	7732-18-5	100
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#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
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#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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##### Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
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##### Special protective actions for fire-fighters

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

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

Personal precautions	Ensure adequate ventilation.
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##### Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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##### Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
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**Methods for cleaning up** Pick up and transfer to properly labeled containers.

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid	Odour	Odourless
Appearance	clear liquid	Odour threshold	No information available
Colour	colourless		
Property	Values	Remarks • Method	
pH	7		
Melting point / freezing point	0 °C / 32 °F		
Boiling point / boiling range	100 °C / 212 °F		
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	

Relative density	No information available
Solubility(ies)	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	
<u>Other information</u>	
Oxidising properties	Not applicable

## 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.

## 11. TOXICOLOGICAL INFORMATION

### Information on the likely routes of exposure

#### Product Information

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

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

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

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

Symptoms No information available.

### Acute toxicity

#### Numerical measures of toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

Disposal methods

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixtureInternational Regulations

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

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

**The Rotterdam Convention** Not applicable

International Inventories

Contact supplier for inventory compliance status

**16. OTHER INFORMATION**

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

**Revision date** 24-Aug-2021

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

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other

materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 10-Feb-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

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

### Other means of identification

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

**UN/ID no** UN1760

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### **Technical Service**

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category C
Serious eye damage/eye irritation	Category 1
Acute aquatic toxicity	Category 3
Chronic aquatic toxicity	Category 3
Corrosive to metals	Category 1

### GHS Label elements, including precautionary statements

**Signal word****Danger****Hazard statements**

Harmful if swallowed

Harmful if inhaled

Causes severe skin burns and eye damage

Harmful to aquatic life with long lasting effects

May be corrosive to metals

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

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

Avoid release to the environment

Keep only in original packaging

**Precautionary Statements - Response**

Immediately call a POISON CENTER or doctor

Specific treatment (see .? on this label)

**Eyes**

Immediately call a POISON CENTER or doctor

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

**Skin**

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

Wash contaminated clothing before reuse

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Call a POISON CENTER or doctor if you feel unwell

Immediately call a POISON CENTER or doctor

**Ingestion**

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

Rinse mouth

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

**Spill**

Absorb spillage to prevent material damage

**Precautionary Statements - Storage**

Store locked up

Store in corrosion resistant container with a resistant inner liner

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

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

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**



**Substance**

Not applicable

**Mixture**

Chemical name	CAS No	Weight-%
Thiocyanic acid, compound with guanidine (1:1) 593-84-0	593-84-0	47.33

**4. FIRST AID MEASURES****Description of necessary first aid measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.
<b>Ingestion</b>	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.

**For emergency responders**

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

<b>Symptoms</b>	Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.
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**Indication of immediate medical attention and special treatment needed, if necessary**

<b>Note to physicians</b>	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.
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**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
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<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
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**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

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

**Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

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

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

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

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

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

**7. HANDLING AND STORAGE****Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

**Incompatible materials** Oxidizing agent. Acids. Bases.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

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

**Appropriate engineering controls**

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

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

<b>Eye/face protection</b>	Tight sealing safety goggles. Face protection shield.
<b>Skin and body protection</b>	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
<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>General hygiene considerations</b>	Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

Physical state	Liquid	Odour	Odourless
Appearance	aqueous solution	Odour threshold	No information available
Colour	colourless		
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	7	No information available	
Melting point / freezing point		No information available	
Boiling point / boiling range	> 100 °C / 212 °F	No information available	
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			
Water solubility	Miscible in water		
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity			
Kinematic viscosity		No information available	
Dynamic viscosity			
<u>Other information</u>			
Oxidising properties	Not applicable		

**10. STABILITY AND REACTIVITY****Reactivity**

**Reactivity** No information available.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data****Sensitivity to mechanical impact** None**Sensitivity to static discharge** None.**Possibility of hazardous reactions****Possibility of hazardous reactions** None under normal processing.**Conditions to avoid****Conditions to avoid** Exposure to air or moisture over prolonged periods. Excessive heat.**Incompatible materials****Incompatible materials** Oxidizing agent. Acids. Bases.**Hazardous decomposition products****Hazardous decomposition products** None known based on information supplied.**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information****Inhalation**

Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Harmful by inhalation.

**Eye contact**

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

**Skin contact**

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

**Ingestion**

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

**Symptoms**

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

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

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

47.33 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

47.33 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

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

**ATEmix (oral)** 747.90 mg/kg

**ATEmix (inhalation-dust/mist)** 3.17 mg/l

**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	Prolonged skin contact causes burns.
<b>Serious eye damage/irritation</b>	Causes burns. Classification based on data available for ingredients. Risk of serious damage to eyes.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

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

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION****IMDG**

**UN number or ID number** UN1760

UN proper shipping name	CORROSIVE LIQUID, N.O.S.
Description	UN1760, CORROSIVE LIQUID, N.O.S. (THIOCYANIC ACID, COMPOUND WITH GUANIDINE (1:1)), 8, III
Transport hazard class(es)	8
Packing group	III
Marine pollutant	NP
Special Provisions	274, 223
EmS-No	F-A, S-B
Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available

**IATA**

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

**RID**

UN number	UN1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S.
Description	UN1760, CORROSIVE LIQUID, N.O.S. (Thiocyanic acid, compound with guanidine (1:1)), 8, III
Transport hazard class(es)	8
Labels	8
Packing group	III
Classification code	C9
Special Provisions	274

**ADR**

UN number or ID number	1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S.
Description	1760, CORROSIVE LIQUID, N.O.S. (Thiocyanic acid, compound with guanidine (1:1)), 8, III
Transport hazard class(es)	8
Labels	8
Packing group	III
Classification code	C9
Special Provisions	274

**ADN**

UN number	UN1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S.
Description	UN1760, CORROSIVE LIQUID, N.O.S. (Thiocyanic acid, compound with guanidine (1:1)), 8, III
Transport hazard class(es)	8
Hazard label(s)	8
Packing group	III
Classification code	C9
Special Provisions	274
Limited quantity (LQ)	5 L
Equipment Requirements	PP, EP

Special precautions for user	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.
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**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations**

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

**International Inventories**

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

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

**Revision date** 10-Feb-2022

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

**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		

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 03-Jan-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Initial GAPDH PCR Primers

### Other means of identification

**Catalogue Number(s)** 10011357

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture



#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
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#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
------------	--

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

##### Specific hazards arising from the chemical

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

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

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions	Ensure adequate ventilation.
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##### Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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##### Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
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Methods for cleaning up	Pick up and transfer to properly labeled containers.
-------------------------	--

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
<b>pH</b>	8		
<b>Melting point / freezing point</b>		No information available	
<b>Boiling point / boiling range</b>	100 °C / 212 °F		
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	
<b>Solubility(ies)</b>			

Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

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

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

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

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated

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

IATA Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

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

**Revision date** 03-Jan-2022

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

### 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		

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 03-Jan-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Nested GAPDH PCR Primers

### Other means of identification

**Catalogue Number(s)** 10011358

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
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#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

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

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

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

##### Specific hazards arising from the chemical

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

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

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

##### 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 labeled containers.
-------------------------	--

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
<b>pH</b>	8	No information available	
<b>Melting point / freezing point</b>		No information available	
<b>Boiling point / boiling range</b>	100 °C / 212 °F	No information available	
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	
<b>Solubility(ies)</b>			



Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**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.
----------------------------------	---

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated

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

IATA Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

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

**Revision date** 03-Jan-2022

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

### 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		

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 03-Jan-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Exonuclease

### Other means of identification

**Catalogue Number(s)** 10011359

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### **Technical Service**

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Acute aquatic toxicity

Category 3

### GHS Label elements, including precautionary statements

#### **Hazard statements**

Harmful to aquatic life

#### **Precautionary Statements - Prevention**

Avoid release to the environment

#### **Precautionary Statements - Response**

#### **Precautionary Statements - Disposal**

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

### Other hazards which do not result in classification

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Not applicable

**Mixture**

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

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider No information available.

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

Symptoms No information available.

**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians Treat symptomatically.

**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

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

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

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

**Specific hazards arising from the chemical**

Specific hazards arising from the chemical No information available.

**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**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 labeled containers.

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	Ontario	European Union	
1,2,3-Propanetriol 56-81-5	No data available	TWA: 15 mg/m <sup>3</sup> mist, total particulate TWA: 5 mg/m <sup>3</sup> mist, respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> mist, total particulate (vacated) TWA: 5 mg/m <sup>3</sup> mist, respirable fraction	-	-	
Chemical name	China	Japan Society of Occupational Health	OEL	Australia	Taiwan
1,2,3-Propanetriol 56-81-5	-	-	TWA: 10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	-

**Appropriate engineering controls**

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

Physical state	Liquid	Odour	Odourless
Appearance	aqueous solution	Odour threshold	No information available
Colour	colourless		
Property	Values	Remarks	• Method
pH	7.5		
Melting point / freezing point		No information available	
Boiling point / boiling range	> 100 °C / 212 °F		
Flash point	> 160 °C / 320 °F		
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			
Water solubility	Miscible in water		
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity			
Kinematic viscosity		No information available	
Dynamic viscosity			

**Other information**

**Oxidising properties** Not applicable

<b>10. STABILITY AND REACTIVITY</b>
-------------------------------------

**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.

## 11. TOXICOLOGICAL INFORMATION

### Information on the likely routes of exposure

#### Product Information

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

**Symptoms** No information available.

### Acute toxicity

#### Numerical measures of toxicity

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1,2,3-Propanetriol	= 12600 mg/kg ( Rat )	> 10 g/kg ( Rabbit )	> 2.75 mg/L ( Rat ) 4 h

### Delayed and immediate effects and also chronic effects from short and long term exposure

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Target organ effects</b>	Kidney, Respiratory system, Eyes, Skin.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

### Toxicity

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

**Ecotoxicity** Harmful to aquatic life.

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



**Persistence and degradability**

No information available.

**Bioaccumulative potential**

There is no data for this product.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

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

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations**

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

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

**The Rotterdam Convention** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**16. OTHER INFORMATION**

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

**Revision date** 03-Jan-2022

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

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

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

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

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 02-Jan-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** 5X Arabidopsis Genomic DNA

### Other means of identification

**Catalogue Number(s)** 10011360

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

CAS No

7732-18-5

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider	No information available.
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**Most important symptoms and effects, both acute and delayed**

Symptoms	No information available.
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**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians	Treat symptomatically.
--------------------	------------------------

**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

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

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

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

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
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**Environmental precautions**

Environmental precautions	See Section 12 for additional Ecological Information.
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**Methods and material for containment and cleaning up**

Methods for containment	Prevent further leakage or spillage if safe to do so.
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<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

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

### Conditions for safe storage, including any incompatibilities

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
---------------------------	--

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies
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### Appropriate engineering controls

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
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### Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Hand protection</b>	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>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid	Odour	Odourless
Appearance	aqueous solution	Odour threshold	No information available
Colour	colourless		
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	8.3		
Melting point / freezing point	0 °C / 32 °F		
Boiling point / boiling range	100 °C / 212 °F		
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	

<b>Solubility(ies)</b>	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

<b>Oxidising properties</b>	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

<b>Reactivity</b>	No information available.
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**Chemical stability**

<b>Stability</b>	Stable under normal conditions.
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**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.
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**Conditions to avoid**

<b>Conditions to avoid</b>	None known based on information supplied.
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**Incompatible materials**

<b>Incompatible materials</b>	None known based on information supplied.
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**Hazardous decomposition products**

<b>Hazardous decomposition products</b>	None known based on information supplied.
---	---

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Symptoms</b>	No information available.

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

<b>Ecotoxicity</b>	The environmental impact of this product has not been fully investigated.
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**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

<b>Mobility in soil</b>	No information available.
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<b>Mobility</b>	No information available.
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**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

<b>IMDG</b>	Not regulated
<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	02-Jan-2022
<b>Revision Note</b>	*** Indicates this information has changed since the previous revision.

### 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		

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**





# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 03-Jan-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** pGAP Control for PCR

### Other means of identification

**Catalogue Number(s)** 10011361

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

CAS No

7732-18-5

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider	No information available.
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**Most important symptoms and effects, both acute and delayed**

Symptoms	No information available.
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**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians	Treat symptomatically.
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**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
--------------------------------	---

**Specific hazards arising from the chemical**

Specific hazards arising from the chemical	No information available.
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**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
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**Environmental precautions**

Environmental precautions	See Section 12 for additional Ecological Information.
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**Methods and material for containment and cleaning up**

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

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

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>	8.3	No information available	
<b>Melting point / freezing point</b>		No information available	
<b>Boiling point / boiling range</b>	100 °C / 212 °F	No information available	
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	

<b>Solubility(ies)</b>	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

<b>Oxidising properties</b>	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

<b>Reactivity</b>	No information available.
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**Chemical stability**

<b>Stability</b>	Stable under normal conditions.
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**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.
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**Conditions to avoid**

<b>Conditions to avoid</b>	None known based on information supplied.
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**Incompatible materials**

<b>Incompatible materials</b>	None known based on information supplied.
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**Hazardous decomposition products**

<b>Hazardous decomposition products</b>	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Symptoms</b>	No information available.

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

<b>Ecotoxicity</b>	The environmental impact of this product has not been fully investigated.
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**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

<b>Mobility in soil</b>	No information available.
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<b>Mobility</b>	No information available.
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**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

<b>IMDG</b>	Not regulated
<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	03-Jan-2022
<b>Revision Note</b>	*** Indicates this information has changed since the previous revision.

### 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		

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 25-Mar-2022

Revision Number 1.1

## 1. IDENTIFICATION

### Product identifier

**Product Name** T4 DNA Ligase

### Other means of identification

**Catalogue Number(s)** 10012350

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

Acute aquatic toxicity	Category 3
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### GHS Label elements, including precautionary statements

#### **Hazard statements**

Harmful to aquatic life

#### **Precautionary Statements - Prevention**

Avoid release to the environment

#### **Precautionary Statements - Response**

#### **Precautionary Statements - Disposal**

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

### Other hazards which do not result in classification

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Not applicable

#### Mixture

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

### 4. FIRST AID MEASURES

#### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

#### For emergency responders

Self-protection of the first aider No information available.

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

Symptoms No information available.

#### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

### 5. FIREFIGHTING MEASURES

#### Suitable Extinguishing Media

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

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

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

#### Specific hazards arising from the chemical

Specific hazards arising from the chemical No information available.

#### Special protective actions for fire-fighters

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

### 6. ACCIDENTAL RELEASE MEASURES



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

**Personal precautions** Ensure adequate ventilation.

**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 labeled containers.

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

**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** Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	Ontario	European Union	
1,2,3-Propanetriol 56-81-5	No data available	TWA: 15 mg/m <sup>3</sup> mist, total particulate TWA: 5 mg/m <sup>3</sup> mist, respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> mist, total particulate (vacated) TWA: 5 mg/m <sup>3</sup> mist, respirable fraction	-	-	
Chemical name	China	Japan Society of Occupational Health	OEL	Australia	Taiwan
1,2,3-Propanetriol 56-81-5	-	-	TWA: 10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	-

**Appropriate engineering controls**

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

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

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

**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.

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

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.5	
Melting point / freezing point		No information available
Boiling point / boiling range	> 100 °C / 212 °F	
Flash point	> 160 °C / 320 °F	
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapour pressure		No information available
Vapour density		No information available
Relative density		No information available
Solubility(ies)		
Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature	392.78	No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

Other information

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY**Reactivity

Reactivity	No information available.
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Chemical stability

Stability	Stable under normal conditions.
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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.
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Incompatible materials

Incompatible materials	None known based on information supplied.
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Hazardous decomposition products

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

## 11. TOXICOLOGICAL INFORMATION

### Information on the likely routes of exposure

#### Product Information

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

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

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

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

**Symptoms** No information available.

### Acute toxicity

#### Numerical measures of toxicity

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1,2,3-Propanetriol	= 12600 mg/kg ( Rat )	> 10 g/kg ( Rabbit )	> 2.75 mg/L ( Rat ) 4 h

### Delayed and immediate effects and also chronic effects from short and long term exposure

**Skin corrosion/irritation** No information available.

**Serious eye damage/irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target organ effects** Kidney, Respiratory system, Eyes, Skin.

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

### Toxicity

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

**Ecotoxicity** Harmful to aquatic life.

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

There is no data for this product.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

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

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations**

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

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

**The Rotterdam Convention** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**16. OTHER INFORMATION**

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

**Revision date** 25-Mar-2022

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

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

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

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

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 03-Jan-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** pJet1.2 Blunted Vector

### Other means of identification

**Catalogue Number(s)** 10012351

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

CAS No

7732-18-5

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider	No information available.
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**Most important symptoms and effects, both acute and delayed**

Symptoms	No information available.
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**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians	Treat symptomatically.
--------------------	------------------------

**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

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

Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
--------------------------------	---

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
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**Environmental precautions**

Environmental precautions	See Section 12 for additional Ecological Information.
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**Methods and material for containment and cleaning up**

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

<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

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

### Conditions for safe storage, including any incompatibilities

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
---------------------------	--

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies
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### Appropriate engineering controls

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
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### Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Hand protection</b>	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>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>	7.5	No information available	
<b>Melting point / freezing point</b>		No information available	
<b>Boiling point / boiling range</b>	100 °C / 212 °F	No information available	
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	



<b>Solubility(ies)</b>	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**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.
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**Incompatible materials**

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

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

<b>IMDG</b>	Not regulated
Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	03-Jan-2022
<b>Revision Note</b>	*** Indicates this information has changed since the previous revision.

### 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		

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 24-Mar-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Bgl II Enzyme

### Other means of identification

**Catalogue Number(s)** 10012352

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

Acute aquatic toxicity	Category 3
------------------------	------------

### GHS Label elements, including precautionary statements

#### **Hazard statements**

Harmful to aquatic life

#### **Precautionary Statements - Prevention**

Avoid release to the environment

#### **Precautionary Statements - Response**

#### **Precautionary Statements - Disposal**

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

### Other hazards which do not result in classification

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Not applicable

#### Mixture

Chemical name	CAS No	Weight-%
1,2,3-Propanetriol 56-81-5	56-81-5	48.19
Sodium chloride 7647-14-5	7647-14-5	1.75

### 4. FIRST AID MEASURES

#### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

#### For emergency responders

Self-protection of the first aider No information available.

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

Symptoms No information available.

#### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

### 5. FIREFIGHTING MEASURES

#### Suitable Extinguishing Media

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

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

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

#### Specific hazards arising from the chemical

Specific hazards arising from the chemical No information available.

#### Special protective actions for fire-fighters

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

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Ensure adequate ventilation.

### 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 labeled containers.

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	Ontario	European Union	
1,2,3-Propanetriol 56-81-5	No data available	TWA: 15 mg/m <sup>3</sup> mist, total particulate TWA: 5 mg/m <sup>3</sup> mist, respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> mist, total particulate (vacated) TWA: 5 mg/m <sup>3</sup> mist, respirable fraction	-	-	
Chemical name	China	Japan Society of Occupational Health	OEL	Australia	Taiwan
1,2,3-Propanetriol 56-81-5	-	-	TWA: 10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	-

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid	Odour	Odourless
Appearance	aqueous solution	Odour threshold	No information available
Colour	colourless		
Property	Values	Remarks	• Method
pH	7.3		
Melting point / freezing point		No information available	
Boiling point / boiling range	> 100 °C / 212 °F		
Flash point	160 °C / 320 °F		
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			
Water solubility	Miscible in water		
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature	392.78	No information available	
Decomposition temperature		No information available	
Viscosity			
Kinematic viscosity		No information available	
Dynamic viscosity			

### Other information

**Oxidising properties** Not applicable

## 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.

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

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

**Symptoms** No information available.

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

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1,2,3-Propanetriol	= 12600 mg/kg ( Rat )	> 10 g/kg ( Rabbit )	> 2.75 mg/L ( Rat ) 4 h
Sodium chloride	= 3 g/kg ( Rat )	> 10000 mg/kg ( Rabbit )	> 42 mg/L ( Rat ) 1 h

**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Target organ effects</b>	Kidney, Respiratory system, Eyes, Skin.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

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

**Ecotoxicity** Harmful to aquatic life.



Chemical name	Algae/aquatic plants	Fish	Crustacea
1,2,3-Propanetriol	-	LC50: 51 - 57mg/L (96h, <i>Oncorhynchus mykiss</i> )	-
Sodium chloride	-	LC50: 4747 - 7824mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: 5560 - 6080mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: 6020 - 7070mg/L (96h, <i>Pimephales promelas</i> ) LC50: 6420 - 6700mg/L (96h, <i>Pimephales promelas</i> ) LC50: =12946mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: =7050mg/L (96h, <i>Pimephales promelas</i> )	EC50: 340.7 - 469.2mg/L (48h, <i>Daphnia magna</i> ) EC50: =1000mg/L (48h, <i>Daphnia magna</i> )

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

There is no data for this product.

**Mobility****Mobility in soil** No information available.**Mobility** No information available.

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

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods****Waste from residues/unused products**

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

**Contaminated packaging**

Do not reuse empty containers.

**14. TRANSPORT INFORMATION****IMDG****Transport in bulk according to Annex II of MARPOL and the IBC Code**

Not regulated

No information available

**IATA**

Not regulated

**RID**

Not regulated

**ADR**

Not regulated

**ADN**

Not regulated

**Special precautions for user**

Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

Prepared By Bio-Rad Laboratories, Environmental Health and Safety

Revision date 24-Mar-2022

Revision Note \*\*\* Indicates this information has changed since the previous revision.

### 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		

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 24-Mar-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

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

### Other means of identification

**Catalogue Number(s)** 10012353

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

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

##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
--------------------	------------------------

#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

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

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

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

##### Specific hazards arising from the chemical

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

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

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

##### 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 labeled containers.
-------------------------	--

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
<b>pH</b>	7.9	No information available	
<b>Melting point / freezing point</b>		No information available	
<b>Boiling point / boiling range</b>	100 °C / 212 °F	No information available	
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	
<b>Solubility(ies)</b>			

Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

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

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

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

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

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

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

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

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated

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

IATA Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

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

**Revision date** 24-Mar-2022

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

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

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

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

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**





# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 04-Apr-2022

Revision Number 1.1

## 1. IDENTIFICATION

### Product identifier

**Product Name** pJet SEQ F Sequencing Primer

### Other means of identification

**Catalogue Number(s)** 10014108

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

CAS No

7732-18-5

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider	No information available.
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**Most important symptoms and effects, both acute and delayed**

Symptoms	No information available.
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**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians	Treat symptomatically.
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**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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**Specific hazards arising from the chemical**

Specific hazards arising from the chemical	No information available.
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**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
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**Environmental precautions**

Environmental precautions	See Section 12 for additional Ecological Information.
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**Methods and material for containment and cleaning up**

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

<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

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

### Conditions for safe storage, including any incompatibilities

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies
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### Appropriate engineering controls

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
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### Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Hand protection</b>	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>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>	8		
<b>Melting point / freezing point</b>	0 °C / 32 °F		
<b>Boiling point / boiling range</b>	100 °C / 212 °F		
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	

<b>Solubility(ies)</b>	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

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

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

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

<b>Ecotoxicity</b>	The environmental impact of this product has not been fully investigated.
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**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

<b>Mobility in soil</b>	No information available.
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<b>Mobility</b>	No information available.
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**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

<b>IMDG</b>	Not regulated
Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	04-Apr-2022
<b>Revision Note</b>	SDS sections updated. 1.

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

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

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

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 04-Apr-2022

Revision Number 1.1

## 1. IDENTIFICATION

### Product identifier

**Product Name** pJet SEQ R Sequencing Primer

### Other means of identification

**Catalogue Number(s)** 10014109

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

CAS No

7732-18-5

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider	No information available.
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**Most important symptoms and effects, both acute and delayed**

Symptoms	No information available.
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**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians	Treat symptomatically.
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**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
--------------------------------	---

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
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**Environmental precautions**

Environmental precautions	See Section 12 for additional Ecological Information.
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**Methods and material for containment and cleaning up**

Methods for containment	Prevent further leakage or spillage if safe to do so.
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Methods for cleaning up	Pick up and transfer to properly labeled containers.
-------------------------	--



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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>	8		
<b>Melting point / freezing point</b>	0 °C / 32 °F		
<b>Boiling point / boiling range</b>	100 °C / 212 °F		
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	
<b>Solubility(ies)</b>			

Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**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.
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**Incompatible materials**

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

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated

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

IATA Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

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

**Revision date** 04-Apr-2022

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

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

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

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

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 04-Apr-2022

Revision Number 1.1

## 1. IDENTIFICATION

### Product identifier

**Product Name** GAP SEQ F Sequencing Primer

### Other means of identification

**Catalogue Number(s)** 10014110

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

CAS No

7732-18-5

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider	No information available.
------------------------------------	---------------------------

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

Symptoms	No information available.
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**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians	Treat symptomatically.
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**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

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

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

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

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

**Environmental precautions**

Environmental precautions	See Section 12 for additional Ecological Information.
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**Methods and material for containment and cleaning up**

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

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

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid	Odour	Odourless
Appearance	aqueous solution	Odour threshold	No information available
Colour	colourless		
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	8		
Melting point / freezing point	0 °C / 32 °F		
Boiling point / boiling range	100 °C / 212 °F		
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	

<b>Solubility(ies)</b>	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

<b>Oxidising properties</b>	Not applicable
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## 10. STABILITY AND REACTIVITY

**Reactivity**

<b>Reactivity</b>	No information available.
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**Chemical stability**

<b>Stability</b>	Stable under normal conditions.
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**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.
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**Conditions to avoid**

<b>Conditions to avoid</b>	None known based on information supplied.
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**Incompatible materials**

<b>Incompatible materials</b>	None known based on information supplied.
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**Hazardous decomposition products**

<b>Hazardous decomposition products</b>	None known based on information supplied.
---	---

## 11. TOXICOLOGICAL INFORMATION

**Information on the likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Symptoms</b>	No information available.

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



**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

<b>Ecotoxicity</b>	The environmental impact of this product has not been fully investigated.
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**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

<b>Mobility in soil</b>	No information available.
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<b>Mobility</b>	No information available.
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**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

<b>Contaminated packaging</b>	Do not reuse empty containers.
-------------------------------	--------------------------------

**14. TRANSPORT INFORMATION**

<b>IMDG</b>	Not regulated
Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	04-Apr-2022
<b>Revision Note</b>	SDS sections updated. 1.

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

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

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

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 04-Apr-2022

Revision Number 1.2

## 1. IDENTIFICATION

### Product identifier

**Product Name** GAP SEQ R Sequencing Primer

### Other means of identification

**Catalogue Number(s)** 10014111

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

CAS No

7732-18-5

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider	No information available.
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**Most important symptoms and effects, both acute and delayed**

Symptoms	No information available.
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**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians	Treat symptomatically.
--------------------	------------------------

**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

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

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

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

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

**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 labeled containers.

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid	Odour	Odourless
Appearance	aqueous solution	Odour threshold	No information available
Colour	colourless		
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	8		
Melting point / freezing point	0 °C / 32 °F		
Boiling point / boiling range	100 °C / 212 °F		
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	

<b>Solubility(ies)</b>	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

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

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

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

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

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

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

<b>Ecotoxicity</b>	The environmental impact of this product has not been fully investigated.
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**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

<b>Mobility in soil</b>	No information available.
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<b>Mobility</b>	No information available.
-----------------	---------------------------

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

<b>Contaminated packaging</b>	Do not reuse empty containers.
-------------------------------	--------------------------------

**14. TRANSPORT INFORMATION**

<b>IMDG</b>	Not regulated
Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	04-Apr-2022
<b>Revision Note</b>	SDS sections updated. 1.

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

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

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

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**





# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 04-Jan-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** pGAP Control for Sequencing

### Other means of identification

**Catalogue Number(s)** 10011395

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

CAS No

7732-18-5

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider	No information available.
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**Most important symptoms and effects, both acute and delayed**

Symptoms	No information available.
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**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians	Treat symptomatically.
--------------------	------------------------

**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

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

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

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

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

**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.
-------------------------	---

<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

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

### Conditions for safe storage, including any incompatibilities

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
---------------------------	--

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Hand protection</b>	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>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>	8		
<b>Melting point / freezing point</b>	0 °C / 32 °F		
<b>Boiling point / boiling range</b>	100 °C / 212 °F		
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	

<b>Solubility(ies)</b>	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

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

**Chemical stability**

Stability	Stable under normal conditions.
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**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.
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**Incompatible materials**

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

**Hazardous decomposition products**

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

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

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

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

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

<b>Ecotoxicity</b>	The environmental impact of this product has not been fully investigated.
--------------------	---

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

<b>Mobility in soil</b>	No information available.
-------------------------	---------------------------

<b>Mobility</b>	No information available.
-----------------	---------------------------

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

<b>Contaminated packaging</b>	Do not reuse empty containers.
-------------------------------	--------------------------------

**14. TRANSPORT INFORMATION**

<b>IMDG</b>	Not regulated
Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	04-Jan-2022
<b>Revision Note</b>	*** Indicates this information has changed since the previous revision.

### 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		

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 06-Apr-2021

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Lysis Solution

### Other means of identification

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

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

### GHS Label elements, including precautionary statements



Signal word

Warning

Hazard statements

Causes skin irritation  
Causes serious eye irritation

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Specific treatment (see .? on this label)

**Eyes**

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

If eye irritation persists: Get medical advice/attention

**Skin**

IF ON SKIN: Wash with plenty of water and soap

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse

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

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Not applicable

**Mixture**

Chemical name	CAS No	Weight-%
Water 7732-18-5	7732-18-5	98.2
Sodium lauryl sulfate 151-21-3	151-21-3	1
Sodium hydroxide 1310-73-2	1310-73-2	0.8

**4. FIRST AID MEASURES****Description of necessary first aid measures****General advice**

Show this safety data sheet to the doctor in attendance.

**Inhalation**

Remove to fresh air. Get medical attention immediately if symptoms occur.

**Skin contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

**Eye contact**

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

**Ingestion**

Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

**For emergency responders****Self-protection of the first aider**

Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

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

**Indication of immediate medical attention and special treatment needed, if necessary**



**Note to physicians** Treat symptomatically.

## 5. FIREFIGHTING MEASURES

### Suitable Extinguishing Media

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

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

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

### Specific hazards arising from the chemical

**Specific hazards arising from the chemical** No information available.

### Special protective actions for fire-fighters

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

## 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.

### Environmental precautions

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

### Methods and material for containment and cleaning up

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

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

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

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

## 7. HANDLING AND STORAGE

### Precautions for safe handling

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

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

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

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Exposure guidelines

Chemical name	ACGIH TLV		OSHA PEL	Ontario	European Union
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m³		TWA: 2 mg/m³ (vacated) Ceiling: 2 mg/m³	CEV: 2 mg/m³	-
Chemical name	China	Japan Society of Occupational Health	OEL	Australia	Taiwan
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m³ Ceiling	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	2 mg/m³ Peak	TWA: 2 mg/m³ STEL: 4 mg/m³

**Appropriate engineering controls**

**Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

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

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

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

**Hand protection** Wear suitable gloves. Impervious 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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
pH	13		
Melting point / freezing point	0 °C / 32 °F		
Boiling point / boiling range	100 °C / 212 °F		
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			
Water solubility	Miscible in water		
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature	248 °C / 478.4 °F	No information available	
Decomposition temperature		No information available	
Viscosity			
Kinematic viscosity		No information available	
Dynamic viscosity			

**Other information**

**Oxidising properties** Not applicable

## 10. STABILITY AND REACTIVITY

### Reactivity

**Reactivity** No information available.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to mechanical impact** None

**Sensitivity to static discharge** None.

### Possibility of hazardous reactions

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

### Conditions to avoid

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

### Incompatible materials

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

### Hazardous decomposition products

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

## 11. TOXICOLOGICAL INFORMATION

### Information on the likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes serious eye irritation.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
<b>Symptoms</b>	Redness. May cause redness and tearing of the eyes.

### Acute toxicity

#### Numerical measures of toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

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

**ATEmix (inhalation-dust/mist)** 97.60 mg/l

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Sodium lauryl sulfate	= 1288 mg/kg ( Rat )	= 200 mg/kg ( Rabbit )	> 3900 mg/m <sup>3</sup> ( Rat ) 1 h
Sodium hydroxide	= 325 mg/kg ( Rat )	= 1350 mg/kg ( Rabbit )	-

**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Irritating to skin.
<b>Serious eye damage/irritation</b>	Classification based on data available for ingredients. Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

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

**Ecotoxicity**

Chemical name	Algae/aquatic plants	Fish	Crustacea
Sodium lauryl sulfate	EC50: 3.59 - 15.6mg/L (96h, <i>Pseudokirchneriella subcapitata</i> ) EC50: 30 - 100mg/L (96h, <i>Desmodesmus subspicatus</i> ) EC50: =117mg/L (96h, <i>Pseudokirchneriella subcapitata</i> ) EC50: =53mg/L (72h, <i>Desmodesmus subspicatus</i> )	LC50: 10.2 - 22.5mg/L (96h, <i>Pimephales promelas</i> ) LC50: 10.8 - 16.6mg/L (96h, <i>Poecilia reticulata</i> ) LC50: 13.5 - 18.3mg/L (96h, <i>Poecilia reticulata</i> ) LC50: 15 - 18.9mg/L (96h, <i>Pimephales promelas</i> ) LC50: 22.1 - 22.8mg/L (96h, <i>Pimephales promelas</i> ) LC50: 4.06 - 5.75mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: 4.2 - 4.8mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: 4.3 - 8.5mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: 5.8 - 7.5mg/L (96h, <i>Pimephales promelas</i> ) LC50: 6.2 - 9.6mg/L (96h, <i>Pimephales promelas</i> ) LC50: 8 - 12.5mg/L (96h, <i>Pimephales promelas</i> ) LC50: 9.9 - 20.1mg/L (96h, <i>Brachydanio rerio</i> ) LC50: =1.31mg/L (96h, <i>Cyprinus carpio</i> ) LC50: =4.2mg/L (96h, <i>Oncorhynchus mykiss</i> )	EC50: =1.8mg/L (48h, <i>Daphnia magna</i> )

		LC50: =4.5mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: =4.62mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: =7.97mg/L (96h, <i>Brachydanio rerio</i> )	
Sodium hydroxide	-	LC50: =45.4mg/L (96h, <i>Oncorhynchus mykiss</i> )	-

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

There is no data for this product.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

Chemical name	Partition coefficient
Sodium lauryl sulfate	1.6

**Other adverse effects**

No information available.

### 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

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

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

### 14. TRANSPORT INFORMATION

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

### 15. REGULATORY INFORMATION

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

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

**International Inventories**

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

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

**Revision date** 06-Apr-2021

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

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

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

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

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 06-Apr-2021

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Cell Resuspension Solution

### Other means of identification

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

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

Chemical name	CAS No	Weight-%
Water 7732-18-5	7732-18-5	99.0315
1,3-Propanediol, 2-amino-2-(hydroxymethyl)- 77-86-1	77-86-1	0.5998
Tetrasodium EDTA 64-02-8	64-02-8	0.3686
Nuclease, ribo- 9001-99-4	9001-99-4	0.0001

#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

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

##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
--------------------	------------------------

#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

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

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

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

##### Specific hazards arising from the chemical

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

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

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------



**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 labeled containers.

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

**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** Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

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

**Appropriate engineering controls**

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

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

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

**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.

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

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
pH	8		
Melting point / freezing point	0 °C / 32 °F		
Boiling point / boiling range	100 °C / 212 °F		
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	

**Upper/lower flammability or explosive limits**

Upper flammability or explosive limits Not applicable

Lower flammability or explosive limits Not applicable

Vapour pressure

No information available

Vapour density

No information available

Relative density

No information available

Solubility(ies)

Water solubility

Miscible in water

Solubility in other solvents

No information available

Partition coefficient

No information available

Autoignition temperature

No information available

Decomposition temperature

No information available

Viscosity

Kinematic viscosity

No information available

Dynamic viscosity

**Other information**

Oxidising properties

Not applicable

**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.

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation

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

Eye contact

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

Skin contact

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

**Ingestion**

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

**Symptoms**

No information available.

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

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

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

**Delayed and immediate effects and also chronic effects from short and long term exposure****Skin corrosion/irritation**

No information available.

**Serious eye damage/irritation**

No information available.

**Respiratory or skin sensitization**

No information available.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

No information available.

**Reproductive toxicity**

No information available.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

No information available.

**Aspiration hazard**

No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

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

**Ecotoxicity**

Chemical name	Algae/aquatic plants	Fish	Crustacea
Tetrasodium EDTA	EC50: =1.01mg/L (72h, <i>Desmodesmus subspicatus</i> )	LC50: =41mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: =59.8mg/L (96h, <i>Pimephales promelas</i> )	-

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations**

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

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

**The Rotterdam Convention** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**16. OTHER INFORMATION**

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

**Revision date** 06-Apr-2021

**Revision Note**

\*\*\* Indicates this information has changed since the previous revision.

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 19-Jan-2022

Revision Number 1.1

## 1. IDENTIFICATION

### Product identifier

**Product Name** LB Nutrient Agar Powder

### Other means of identification

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

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

Chemical name	CAS No	Weight-%
Sodium chloride 7647-14-5	7647-14-5	24.78

#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

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

##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
--------------------	------------------------

#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

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

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

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

##### Specific hazards arising from the chemical

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

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

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

##### Environmental precautions

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

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

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid	<b>Odour</b>	Odourless
<b>Appearance</b>	Powder	<b>Odour threshold</b>	No information available
<b>Colour</b>	white		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		No information available
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flash point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
<b>Upper/lower flammability or explosive limits</b>		
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	



Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Solubility(ies)	
Water solubility	Soluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**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.
----------------------------------	---

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

**Acute toxicity**

**Numerical measures of toxicity**

37.17 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 74.34 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 99.12 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 99.12 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 74.34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

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

ATEmix (oral) 5,398.20 mg/kg

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

**Ecotoxicity**

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations**

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

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

**The Rotterdam Convention** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**16. OTHER INFORMATION**

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

**Revision date** 19-Jan-2022

**Revision Note**

\*\*\* Indicates this information has changed since the previous revision.

**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		

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 30-Nov-2021

Revision Number 1.1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Certified Molecular Biology Agarose

### Other means of identification

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

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

**CAS No** 9012-36-6

Chemical name	CAS No	Weight-%
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Agarose 9012-36-6	9012-36-6	100
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#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

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

##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
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#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

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

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

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

##### Specific hazards arising from the chemical

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

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

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions	Ensure adequate ventilation.
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##### Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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##### Methods and material for containment and cleaning up

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

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

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid	<b>Odour</b>	Odourless
<b>Appearance</b>	Powder	<b>Odour threshold</b>	No information available
<b>Colour</b>	white		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		No information available
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flash point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapour pressure		No information available
Vapour density		No information available

Relative density	No information available
Solubility(ies)	
Water solubility	Insoluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**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.
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**Incompatible materials**

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

**Hazardous decomposition products**

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

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

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

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

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



**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated

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

IATA Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

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

**Revision date** 30-Nov-2021

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

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

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

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

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 24-Feb-2021

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Ampicillin, lyophilized

### Other means of identification

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

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Respiratory sensitization	Category 1
Skin sensitization	Category 1A

### GHS Label elements, including precautionary statements



**Signal word**

**Danger**

### Hazard statements

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause an allergic skin reaction

**Precautionary Statements - Prevention**

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

In case of inadequate ventilation wear respiratory protection

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves

**Precautionary Statements - Response**

Specific treatment (see .? on this label)

**Skin**

IF ON SKIN: Wash with plenty of water and soap

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

Take off contaminated clothing and wash it before reuse

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing

If experiencing respiratory symptoms: Call a POISON CENTER or doctor

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

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

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Not applicable

**Mixture**

CAS No

69-52-3

Chemical name	CAS No	Weight-%
Sodium [2S-[2.alpha.,5.alpha.,6.beta.(S*)]]-6-(aminophenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate 69-52-3	69-52-3	100

**4. FIRST AID MEASURES****Description of necessary first aid measures****General advice**

Show this safety data sheet to the doctor in attendance.

**Inhalation**

May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.

**Skin contact**

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

**Eye contact**

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

**Ingestion**

May produce an allergic reaction. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

**For emergency responders****Self-protection of the first aider**

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

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

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

**Indication of immediate medical attention and special treatment needed, if necessary**

**Note to physicians** May cause sensitization in susceptible persons. Treat symptomatically.

**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

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

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

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

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

**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.

**Environmental precautions**

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

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

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

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

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

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

**7. HANDLING AND STORAGE****Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash 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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid	<b>Odour</b>	Odourless
<b>Appearance</b>	crystalline	<b>Odour threshold</b>	No information available
<b>Colour</b>	light yellow		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>		No information available
<b>Melting point / freezing point</b>	240 °C / 464 °F	
<b>Boiling point / boiling range</b>		No information available
<b>Flash point</b>		No information available
<b>Evaporation rate</b>		No information available
<b>Flammability (solid, gas)</b>		No information available
<b>Upper/lower flammability or explosive limits</b>		
<b>Upper flammability or explosive limits</b>	Not applicable	
<b>Lower flammability or explosive limits</b>	Not applicable	
<b>Vapour pressure</b>		No information available
<b>Vapour density</b>		No information available
<b>Relative density</b>		No information available
<b>Solubility(ies)</b>		
<b>Water solubility</b>	Soluble in water	
<b>Solubility in other solvents</b>		No information available
<b>Partition coefficient</b>		No information available
<b>Autoignition temperature</b>		No information available
<b>Decomposition temperature</b>		No information available
<b>Viscosity</b>		
<b>Kinematic viscosity</b>		No information available
<b>Dynamic viscosity</b>		

Other information

Oxidising properties Not applicable

**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.

**11. TOXICOLOGICAL INFORMATION**Information on the likely routes of exposure**Product Information**

**Inhalation** Specific test data for the substance or mixture is not available. May cause sensitization in susceptible persons. (based on components).

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

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

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

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

Acute toxicity**Numerical measures of toxicity**

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	May cause sensitization by inhalation. May cause sensitization by skin contact.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.

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

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

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

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.



**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods****Waste from residues/unused products**

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

**Contaminated packaging**

Do not reuse empty containers.

**14. TRANSPORT INFORMATION****IMDG****Transport in bulk according to Annex II of MARPOL and the IBC Code**

Not regulated

No information available

**IATA**

Not regulated

**RID**

Not regulated

**ADR**

Not regulated

**ADN**

Not regulated

**Special precautions for user**

Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories**

Contact supplier for inventory compliance status

**16. OTHER INFORMATION****Prepared By**

Bio-Rad Laboratories, Environmental Health and Safety

**Revision date**

24-Feb-2021

**Revision Note**

SDS sections updated. 1. 2.

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling

Maximum limit value

\*

Skin designation

C

Carcinogen

**Disclaimer**

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 29-Mar-2022

Revision Number 2

## 1. IDENTIFICATION

### Product identifier

**Product Name** 2x Ligation Reaction Buffer

### Other means of identification

**Catalogue Number(s)** 10013895

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
--------------------	------------------------

#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

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

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

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

##### Specific hazards arising from the chemical

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

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

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

##### 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 labeled containers.
-------------------------	--

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
pH	7		
Melting point / freezing point		No information available	
Boiling point / boiling range		No information available	
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			

Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**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.
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**Incompatible materials**

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

**Hazardous decomposition products**

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

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

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

**Component Information****Delayed and immediate effects and also chronic effects from short and long term exposure**

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

**12. ECOLOGICAL INFORMATION****Toxicity**

12 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

<b>IMDG</b>	Not regulated
Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	29-Mar-2022
<b>Revision Note</b>	*** Indicates this information has changed since the previous revision.

### 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		

#### Disclaimer

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**End of Safety Data Sheet**





# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 29-Mar-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** DNA Blunting Enzyme

### Other means of identification

**Catalogue Number(s)** 10012338

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

Acute aquatic toxicity	Category 3
------------------------	------------

### GHS Label elements, including precautionary statements

#### **Hazard statements**

Harmful to aquatic life

#### **Precautionary Statements - Prevention**

Avoid release to the environment

#### **Precautionary Statements - Response**

#### **Precautionary Statements - Disposal**

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

### Other hazards which do not result in classification

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

Not applicable

**Mixture**

Chemical name	CAS No	Weight-%
1,2,3-Propanetriol 56-81-5	56-81-5	70

### 4. FIRST AID MEASURES

**Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

**Self-protection of the first aider** No information available.

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

**Symptoms** No information available.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Note to physicians** Treat symptomatically.

### 5. FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

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

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

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

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** No information available.

**Special protective actions for fire-fighters**

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

### 6. ACCIDENTAL RELEASE MEASURES

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

**Personal precautions** Ensure adequate ventilation.

**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 labeled containers.

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

**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** Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	Ontario	European Union	
1,2,3-Propanetriol 56-81-5	No data available	TWA: 15 mg/m <sup>3</sup> mist, total particulate TWA: 5 mg/m <sup>3</sup> mist, respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> mist, total particulate (vacated) TWA: 5 mg/m <sup>3</sup> mist, respirable fraction	-	-	
Chemical name	China	Japan Society of Occupational Health	OEL	Australia	Taiwan
1,2,3-Propanetriol 56-81-5	-	-	TWA: 10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	-

**Appropriate engineering controls**

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

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

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

**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.

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

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7	
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flash point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapour pressure		No information available
Vapour density		No information available
Relative density		No information available
Solubility(ies)		
Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature	392.78 °C / 739 °F	
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

Other information

Oxidising properties	Not applicable
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**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.

## 11. TOXICOLOGICAL INFORMATION

### Information on the likely routes of exposure

#### Product Information

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

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

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

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

**Symptoms** No information available.

### Acute toxicity

#### Numerical measures of toxicity

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1,2,3-Propanetriol	= 12600 mg/kg ( Rat )	> 10 g/kg ( Rabbit )	> 2.75 mg/L ( Rat ) 4 h

### Delayed and immediate effects and also chronic effects from short and long term exposure

**Skin corrosion/irritation** No information available.

**Serious eye damage/irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target organ effects** Kidney, Respiratory system, Eyes, Skin.

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

### Toxicity

29.1 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Ecotoxicity** Harmful to aquatic life.

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

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

There is no data for this product.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

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

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations**

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

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

**The Rotterdam Convention** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**16. OTHER INFORMATION**

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

**Revision date** 29-Mar-2022

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

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

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

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

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 29-Mar-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Transformation Reagent A

### Other means of identification

**Catalogue Number(s)** 10012355

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture



#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
------------------------------------	---------------------------

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

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

##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
--------------------	------------------------

#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

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

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

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

##### Specific hazards arising from the chemical

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

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

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

##### 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 labeled containers.
-------------------------	--

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
pH		No information available	
Melting point / freezing point		No information available	
Boiling point / boiling range		No information available	
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			

Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**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.
----------------------------------	---

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

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

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

ATEmix (oral) 16,353.7395 mg/kg

#### Component Information

##### Delayed and immediate effects and also chronic effects from short and long term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target organ effects	Kidney, Respiratory system, Central nervous system, Blood.
Aspiration hazard	No information available.

## 12. ECOLOGICAL INFORMATION

#### Toxicity

45.01 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

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

#### Persistence and degradability

No information available.

#### Bioaccumulative potential

No information available.

#### Mobility

**Mobility in soil** No information available.

**Mobility** No information available.

#### Other adverse effects

No information available.

## 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

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

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

## 14. TRANSPORT INFORMATION

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

### International Regulations

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

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

**The Rotterdam Convention** Not applicable

### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

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

**Revision date** 29-Mar-2022

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

### 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		

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 29-Mar-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Transformation Reagent B

### Other means of identification

**Catalogue Number(s)** 10012356

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

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

##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
--------------------	------------------------

#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

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

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

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

##### Specific hazards arising from the chemical

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

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

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

##### 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 labeled containers.
-------------------------	--

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

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

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

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

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

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
pH		No information available	
Melting point / freezing point		No information available	
Boiling point / boiling range		No information available	
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			



Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**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.
----------------------------------	---

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

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

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

ATEmix (oral) 16,353.7395 mg/kg

#### Component Information

##### Delayed and immediate effects and also chronic effects from short and long term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target organ effects	Kidney, Respiratory system, Central nervous system, Blood.
Aspiration hazard	No information available.

## 12. ECOLOGICAL INFORMATION

#### Toxicity

45.01 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

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

#### Persistence and degradability

No information available.

#### Bioaccumulative potential

No information available.

#### Mobility

**Mobility in soil** No information available.

**Mobility** No information available.

#### Other adverse effects

No information available.

## 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

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

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

## 14. TRANSPORT INFORMATION

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

### International Regulations

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

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

**The Rotterdam Convention** Not applicable

### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

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

**Revision date** 29-Mar-2022

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

### 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		

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 04-Apr-2022

Revision Number 2.1

## 1. IDENTIFICATION

### Product identifier

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

### Other means of identification

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

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

Chemical name	CAS No	Weight-%
Sodium acetate 127-09-3	127-09-3	13.62
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt, dihydrate 6381-92-6	6381-92-6	1.9

#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider No information available.

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

Symptoms No information available.

##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

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

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

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

##### Specific hazards arising from the chemical

Specific hazards arising from the chemical No information available.

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

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions Ensure adequate ventilation.

##### 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 labeled containers.

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

## **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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **Control parameters**

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

#### **Appropriate engineering controls**

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

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

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

**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.

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

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

#### **Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
<b>pH</b>	7.1	No information available	
<b>Melting point / freezing point</b>		No information available	
<b>Boiling point / boiling range</b>	100 °C / 212 °F	No information available	
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive</b>	Not applicable		

limits		
Lower flammability or explosive limits	Not applicable	
Vapour pressure		No information available
Vapour density		No information available
Relative density		No information available
Solubility(ies)		
Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**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.
----------------------------------	---

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

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

**Symptoms** No information available.

**Acute toxicity**

**Numerical measures of toxicity**

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

ATEmix (oral) 11,575.9186 mg/kg  
 ATEmix (dermal) 16,140.00 mg/kg  
 ATEmix (inhalation-dust/mist) 40.70 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium acetate	= 3530 mg/kg ( Rat )	> 10 g/kg ( Rabbit )	> 30 g/m <sup>3</sup> ( Rat ) 1 h

**Delayed and immediate effects and also chronic effects from short and long term exposure**

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

## 12. ECOLOGICAL INFORMATION

**Toxicity**

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

**Ecotoxicity**

Chemical name	Algae/aquatic plants	Fish	Crustacea
Sodium acetate	-	LC50: >100mg/L (96h, <i>Danio rerio</i> )	EC50: >1000mg/L (48h, <i>Daphnia magna</i> )

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.



**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods****Waste from residues/unused products**

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

**Contaminated packaging**

Do not reuse empty containers.

**14. TRANSPORT INFORMATION****IMDG**

Not regulated

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

No information available

**IATA**

Not regulated

**RID**

Not regulated

**ADR**

Not regulated

**ADN**

Not regulated

**Special precautions for user**

Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories**

Contact supplier for inventory compliance status

**16. OTHER INFORMATION****Prepared By**

Bio-Rad Laboratories, Environmental Health and Safety

**Revision date**

04-Apr-2022

**Revision Note**

SDS sections updated. 1.

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling

Maximum limit value

\*

Skin designation

C

Carcinogen

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 31-Jan-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Dithiothreitol (DTT)

### Other means of identification

**Catalogue Number(s)** 1610610, 1610611, 1610610EDU, 1610611EDU, 10013901

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

### GHS Label elements, including precautionary statements



Signal word

Warning

**Hazard statements**

Harmful if swallowed  
Causes skin irritation  
Causes serious eye irritation  
Toxic to aquatic life

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid release to the environment  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Specific treatment (see .? on this label)

**Eyes**

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

If eye irritation persists: Get medical advice/attention

**Skin**

IF ON SKIN: Wash with plenty of water and soap

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse

**Ingestion**

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

Rinse mouth

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

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

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

CAS No 3483-12-3

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

**4. FIRST AID MEASURES****Description of necessary first aid measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.

**For emergency responders**

**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

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

**Indication of immediate medical attention and special treatment needed, if necessary**

**Note to physicians** Treat symptomatically.

## 5. FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

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

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

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

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** No information available.

**Special protective actions for fire-fighters**

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

## 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.

**Environmental precautions**

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

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

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

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

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

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

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

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

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

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

### Control parameters

### Appropriate engineering controls

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		No information available
Melting point / freezing point	42 °C / 107.6 °F	
Boiling point / boiling range	110 °C / 230 °F	
Flash point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapour pressure		No information available
Vapour density		No information available
Relative density		No information available
Solubility(ies)		
Water solubility	Soluble in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

### Other information

<b>Oxidising properties</b>	Not applicable
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## 10. STABILITY AND REACTIVITY

### Reactivity

**Reactivity** No information available.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to mechanical impact** None

**Sensitivity to static discharge** None.

### Possibility of hazardous reactions

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

### Conditions to avoid

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

### Incompatible materials

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

### Hazardous decomposition products

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

## 11. TOXICOLOGICAL INFORMATION

### Information on the likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes serious eye irritation.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

**Symptoms** Redness. May cause redness and tearing of the eyes.

### Acute toxicity

#### Numerical measures of toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

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

**ATEmix (oral)** 500.00 mg/kg

**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Irritating to skin.
<b>Serious eye damage/irritation</b>	Classification based on data available for ingredients. Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

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

**Ecotoxicity** Toxic to aquatic life.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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

**14. TRANSPORT INFORMATION****IMDG**

**Transport in bulk according to** Not regulated  
No information available



**Annex II of MARPOL and the IBC  
Code****IATA** Not regulated**RID** Not regulated**ADR** Not regulated**ADN** Not regulated**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories**

Contact supplier for inventory compliance status

**16. OTHER INFORMATION****Prepared By** Bio-Rad Laboratories, Environmental Health and Safety**Revision date** 31-Jan-2022**Revision Note** \*\*\* Indicates this information has changed since the previous revision.**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		

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 08-Apr-2021

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** UVView 6X Loading Dye

### Other means of identification

**Catalogue Number(s)** 10028897, 16651111, 10032074, 1665112, 1665111EDU, 1665112EDU

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### **Technical Service**

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Acute aquatic toxicity

Category 3

### GHS Label elements, including precautionary statements

#### **Hazard statements**

Harmful to aquatic life

#### **Precautionary Statements - Prevention**

Avoid release to the environment

#### **Precautionary Statements - Response**

#### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

### Other hazards which do not result in classification

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Not applicable

**Mixture**

Chemical name	CAS No	Weight-%
Water 7732-18-5	7732-18-5	64.6173
1,2,3-Propanetriol 56-81-5	56-81-5	34.9211
Phenol, 4,4-(3H-2,1-benzoxathiol-3-ylidene)bis[2,6-dibromo- , S,S-dioxide, monosodium salt 34725-61-6	34725-61-6	0.2308
1,3-Benzenedisulfonic acid, 4-[[4-(ethylamino)-3-methylphenyl][4-(ethylimino)-3- methyl-2,5-cyclohexadien-1-ylidene]methyl]-, monosodium salt 2650-17-1	2650-17-1	0.2308

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider	No information available.
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**Most important symptoms and effects, both acute and delayed**

Symptoms	No information available.
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**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians	Treat symptomatically.
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**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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**Specific hazards arising from the chemical**

Specific hazards arising from the	No information available.
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chemical

**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**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 labeled containers.

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

**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** Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	Ontario	European Union	
1,2,3-Propanetriol 56-81-5	No data available	TWA: 15 mg/m <sup>3</sup> mist, total particulate TWA: 5 mg/m <sup>3</sup> mist, respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> mist, total particulate (vacated) TWA: 5 mg/m <sup>3</sup> mist, respirable fraction	-	-	
Chemical name	China	Japan Society of Occupational Health	OEL	Australia	Taiwan
1,2,3-Propanetriol 56-81-5	-	-	TWA: 10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	-

**Appropriate engineering controls**

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

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

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

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

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid	Odour	Odourless
Appearance	aqueous solution	Odour threshold	No information available
Colour	dark green		
Property	Values	Remarks	• Method
pH	5		
Melting point / freezing point		No information available	
Boiling point / boiling range	> 100 °C / 212 °F		
Flash point	160 °C / 320 °F		
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			
Water solubility	Miscible in water		
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity			
Kinematic viscosity		No information available	
Dynamic viscosity			

### Other information

<b>Oxidising properties</b>	Not applicable
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## 10. STABILITY AND REACTIVITY

### Reactivity

<b>Reactivity</b>	No information available.
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### Chemical stability

<b>Stability</b>	Stable under normal conditions.
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### 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.
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### 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.

## 11. TOXICOLOGICAL INFORMATION

**Information on the likely routes of exposure**

**Product Information**

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

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

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

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

**Symptoms** No information available.

**Acute toxicity**

**Numerical measures of toxicity**

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 34.9211 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 34.9211 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

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

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target organ effects** Kidney, Respiratory system, Eyes, Skin.

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

### Toxicity

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

**Ecotoxicity** Harmful to aquatic life.

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

### Persistence and degradability

No information available.

### Bioaccumulative potential

There is no data for this product.

### Mobility

**Mobility in soil** No information available.

**Mobility** No information available.

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

### Other adverse effects

No information available.

## 13. DISPOSAL CONSIDERATIONS

### Disposal methods

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

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

## 14. TRANSPORT INFORMATION

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

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

#### International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

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

**Revision date** 08-Apr-2021

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

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

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

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

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**





# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 08-Mar-2021

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** LB Broth, Capsules

### Other means of identification

**Catalogue Number(s)** 1660412, 1660412EDU, 10011390

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Acute toxicity - Oral

Category 5

### GHS Label elements, including precautionary statements

**Signal word**

**Warning**

### **Hazard statements**

May be harmful if swallowed

### **Precautionary Statements - Response**

Call a POISON CENTER or doctor/physician if you feel unwell

### Other hazards which do not result in classification

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

Not applicable

**Mixture**

### 4. FIRST AID MEASURES

**Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider No information available.

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

Symptoms No information available.

**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians Treat symptomatically.

### 5. FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

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

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

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

**Specific hazards arising from the chemical**

Specific hazards arising from the chemical No information available.

**Special protective actions for fire-fighters**

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

### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions Ensure adequate ventilation.

**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 labeled containers.

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

## **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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **Control parameters**

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

#### **Appropriate engineering controls**

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

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

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

**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.

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

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

#### **Information on basic physical and chemical properties**

<b>Physical state</b>	Solid	<b>Odour</b>	sweet
<b>Appearance</b>	tablet	<b>Odour threshold</b>	No information available
<b>Colour</b>	light brown		

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
<b>pH</b>		No information available
<b>Melting point / freezing point</b>		No information available
<b>Boiling point / boiling range</b>		No information available
<b>Flash point</b>		No information available
<b>Evaporation rate</b>		No information available
<b>Flammability (solid, gas)</b>		No information available
<b>Upper/lower flammability or explosive limits</b>		
<b>Upper flammability or explosive</b>	Not applicable	

limits		
Lower flammability or explosive limits	Not applicable	
Vapour pressure		No information available
Vapour density		No information available
Relative density		No information available
Solubility(ies)		
Water solubility	Soluble in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**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.
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**Conditions to avoid**

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

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

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	May be harmful if swallowed.

**Symptoms** No information available.

**Acute toxicity**

**Numerical measures of toxicity**

75 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
75 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
75 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

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

**ATEmix (oral)** 3,000.00 mg/kg

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

**Toxicity**

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

**Ecotoxicity**

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

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

### 14. TRANSPORT INFORMATION

<b>IMDG</b>	Not regulated
<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

### 15. REGULATORY INFORMATION

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

##### International Regulations

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

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

**The Rotterdam Convention** Not applicable

##### International Inventories

Contact supplier for inventory compliance status

### 16. OTHER INFORMATION

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	08-Mar-2021
<b>Revision Note</b>	SDS sections updated. 1. 2.

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

##### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the

date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 03-Jan-2022

Revision Number 1.1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Aurum Low-Stringency Wash Buffer

### Other means of identification

**Catalogue Number(s)** 9704330, 9704329, 7326804

**Registration Number(s)** No information available

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS)

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture



#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
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#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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##### Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
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##### Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
--	--

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation.
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##### Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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##### Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
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Methods for cleaning up	Pick up and transfer to properly labeled containers.
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**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>	7.5		
<b>Melting point / freezing point</b>	0 °C / 32 °F		
<b>Boiling point / boiling range</b>	100 °C / 212 °F		
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	
<b>Solubility(ies)</b>			

Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

Conditions to avoid	None known based on information supplied.
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**Incompatible materials**

Incompatible materials	None known based on information supplied.
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**Hazardous decomposition products**

Hazardous decomposition products	None known based on information supplied.
----------------------------------	---

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

**Acute toxicity****Numerical measures of toxicity**

**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Ecotoxicity****Persistence and degradability**

No information available.

**Bioaccumulative potential**

There is no data for this product.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code No information available

IATA Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 03-Jan-2022

**Revision Note** SDS sections updated. 2. 3.

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

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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 24-Mar-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Aurum Neutralization Solution

### Other means of identification

**Catalogue Number(s)** 9703804

**Registration Number(s)** No information available

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

### GHS Label elements, including precautionary statements



Signal word

Warning

**Hazard statements**

Harmful if swallowed  
Causes skin irritation  
Causes serious eye irritation

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

**Skin**

IF ON SKIN: Wash with plenty of water and soap

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

Rinse mouth

**Precautionary Statements - Disposal**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Other hazards which do not result in classification**

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Not applicable

**Mixture**

Chemical name	CAS No	Weight-%
Guanidine, hydrochloride (1:1) 50-01-1	50-01-1	23.9
Potassium acetate 127-08-2	127-08-2	9.8

**4. FIRST AID MEASURES****Description of necessary first aid measures****General advice**

Show this safety data sheet to the doctor in attendance.

**Inhalation**

Remove to fresh air. Get medical attention immediately if symptoms occur.

**Skin contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

**Ingestion**

Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.

**For emergency responders****Self-protection of the first aider**

Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

**Most important symptoms and effects, both acute and delayed**

**Symptoms** May cause redness and tearing of the eyes. Burning sensation.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Note to physicians** Treat symptomatically.

## 5. FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** No information available.

**Special protective actions for fire-fighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 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.

**Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Other information** Refer to protective measures listed in Sections 7 and 8.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

**Incompatible materials** Strong acids. Strong bases. Strong oxidizing agents.



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Exposure guidelines                      This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

Engineering controls                      Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection**                      If splashes are likely to occur, wear safety glasses with side-shields.

**Skin and body protection**                      Wear suitable protective clothing. Long sleeved clothing.

**Hand protection**                      Wear suitable gloves. Impervious 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.

**General hygiene considerations**                      Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid	Odour	Odourless
Appearance	aqueous solution	Odour threshold	No information available
Colour	colourless		
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	4.2	No information available	
Melting point / freezing point		No information available	
Boiling point / boiling range	> 100 °C / 212 °F	No information available	
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			
Water solubility	Miscible in water		
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity			
Kinematic viscosity		No information available	
Dynamic viscosity			
<u>Other information</u>			
Oxidising properties	Not applicable		

**10. STABILITY AND REACTIVITY****Reactivity**

**Reactivity** No information available.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to mechanical impact** None

**Sensitivity to static discharge** None.

**Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** Strong acids. Strong bases. Strong oxidizing agents.

**Hazardous decomposition products**

**Hazardous decomposition products** None known based on information supplied.

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

**Inhalation** Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

**Eye contact** Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

**Skin contact** Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).

**Ingestion** Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

**Symptoms** Redness. May cause redness and tearing of the eyes.

**Acute toxicity****Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)** 1,875.0759 mg/kg

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Guanidine, hydrochloride (1:1)	= 475 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	= 3.181 mg/L ( Rat ) 4 h = 7.655 mg/L ( Rat ) 4 h

Potassium acetate	= 3250 mg/kg ( Rat )	> 20000 mg/kg ( Rabbit )	-
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**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Irritating to skin.
<b>Serious eye damage/irritation</b>	Classification based on data available for ingredients. Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Ecotoxicity**

Chemical name	Algae/aquatic plants	Fish	Crustacea
Potassium acetate	-	LC50: =6800mg/L (96h, <i>Oncorhynchus mykiss</i> )	-

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

There is no data for this product.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

Chemical name	Partition coefficient
Guanidine, hydrochloride (1:1)	$\leq 1.7$

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## 14. TRANSPORT INFORMATION

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 24-Mar-2022

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

### 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		

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 30-Dec-2021

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** IPTG Solution

### Other means of identification

**Catalogue Number(s)** 10013088

**Registration Number(s)** No information available

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Acute toxicity - Oral	Category 5
Acute toxicity - Dermal	Category 5

### GHS Label elements, including precautionary statements

**Signal word**

**Warning**

### Hazard statements

May be harmful if swallowed  
May be harmful in contact with skin

### Other hazards which do not result in classification

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

Not applicable

**Mixture**

Chemical name	CAS No	Weight-%
.beta.-D-Galactopyranoside, 1-methylethyl 1-thio-367-93-1	367-93-1	23.8

### 4. FIRST AID MEASURES

**Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

**For emergency responders**

Self-protection of the first aider No information available.

**Most important symptoms and effects, both acute and delayed**

Symptoms No information available.

**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians Treat symptomatically.

### 5. FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical**

Specific hazards arising from the chemical No information available.

**Special protective actions for fire-fighters**

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

#### 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 labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

**Exposure guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

#### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

#### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>		No information available
<b>Melting point / freezing point</b>		No information available
<b>Boiling point / boiling range</b>		No information available
<b>Flash point</b>		No information available

Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	
Upper flammability or explosive limits	Not applicable
Lower flammability or explosive limits	Not applicable
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Solubility(ies)	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

Conditions to avoid	None known based on information supplied.
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**Incompatible materials**

Incompatible materials	None known based on information supplied.
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**Hazardous decomposition products**

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the 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.



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<b>Skin contact</b>	May be harmful in contact with skin.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Symptoms</b>	No information available.

**Acute toxicity****Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

<b>ATEmix (oral)</b>	2,100.8403 mg/kg
<b>ATEmix (dermal)</b>	4,621.80 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	6.30 mg/l

**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

**Toxicity**

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

<b>Ecotoxicity</b>	The environmental impact of this product has not been fully investigated.
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**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

<b>Mobility in soil</b>	No information available.
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<b>Mobility</b>	No information available.
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**Other adverse effects**

No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers.

### 14. TRANSPORT INFORMATION

<b>IMDG</b>	Not regulated
<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

### 15. REGULATORY INFORMATION

#### Safety, health and environmental regulations/legislation specific for the substance or mixture

##### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

##### International Inventories

Contact supplier for inventory compliance status

### 16. OTHER INFORMATION

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	30-Dec-2021
<b>Revision Note</b>	*** Indicates this information has changed since the previous revision.

#### 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		

##### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the

date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 04-Jan-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Wash Solution 5X / Wash Solution

### Other means of identification

**Catalogue Number(s)** 9703808

**Registration Number(s)** No information available

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS)

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
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#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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##### Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
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##### Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation.
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##### Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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##### Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
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Methods for cleaning up	Pick up and transfer to properly labeled containers.
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**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>	7.5		
<b>Melting point / freezing point</b>	0 °C / 32 °F		
<b>Boiling point / boiling range</b>	100 °C / 212 °F		
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	
<b>Solubility(ies)</b>			

Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

Conditions to avoid	None known based on information supplied.
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**Incompatible materials**

Incompatible materials	None known based on information supplied.
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**Hazardous decomposition products**

Hazardous decomposition products	None known based on information supplied.
----------------------------------	---

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

**Acute toxicity****Numerical measures of toxicity**

**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated



Transport in bulk according to Annex II of MARPOL and the IBC Code No information available

IATA Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 04-Jan-2022

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 04-Jan-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Elution Solution

### Other means of identification

**Catalogue Number(s)** 9703805

**Registration Number(s)** No information available

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS)

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture

#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
------------------------------------	---------------------------

##### Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
----------	---------------------------

##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
--------------------	------------------------

#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
------------------------------	---

Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
------------	--

Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
--------------------------------	---

##### Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
--	---------------------------

##### Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
--	--

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

##### 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 labeled containers.
-------------------------	--

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
<b>pH</b>		No information available	
<b>Melting point / freezing point</b>	0 °C / 32 °F		
<b>Boiling point / boiling range</b>	100 °C / 212 °F		
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>		No information available	
<b>Solubility(ies)</b>			

Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**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.
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**Incompatible materials**

Incompatible materials	None known based on information supplied.
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**Hazardous decomposition products**

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

**Acute toxicity****Numerical measures of toxicity**

**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code No information available

IATA Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 04-Jan-2022

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

### 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		

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 08-Apr-2021

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** 2x PCR Master Mix Bottled

### Other means of identification

**Catalogue Number(s)** 10007984, 1665009EDU, 1665009

**Registration Number(s)** No information available

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

### Mixture



Chemical name	CAS No	Weight-%
Water 7732-18-5	7732-18-5	99.78
Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate 7791-18-6	7791-18-6	0.15
Trade secret	-	0 - 10%
Deoxyribonucleic acids 9007-49-2	9007-49-2	0.0144

#### 4. FIRST AID MEASURES

##### Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

##### For emergency responders

Self-protection of the first aider	No information available.
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##### Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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##### Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
--------------------	------------------------

#### 5. FIREFIGHTING MEASURES

##### Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
------------------------------	---

Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
------------	--

Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
--------------------------------	---

##### Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
--	---------------------------

##### Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
--	--

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

**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 labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**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** Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

**Exposure guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
<b>pH</b>	8.5	No information available	
<b>Melting point / freezing point</b>		No information available	
<b>Boiling point / boiling range</b>	100 °C / 212 °F	No information available	
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	

**Upper/lower flammability or explosive limits**

Upper flammability or explosive limits Not applicable

Lower flammability or explosive limits Not applicable

Vapour pressure

No information available

Vapour density

No information available

Relative density

No information available

Solubility(ies)

Water solubility

Miscible in water

Solubility in other solvents

No information available

Partition coefficient

No information available

Autoignition temperature

No information available

Decomposition temperature

No information available

Viscosity

Kinematic viscosity

No information available

Dynamic viscosity

**Other information**

Oxidising properties

Not applicable

**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.

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation

Specific test data for the substance or mixture is not available.

Eye contact

Specific test data for the substance or mixture is not available.

Skin contact

Specific test data for the substance or mixture is not available.

**Ingestion**

Specific test data for the substance or mixture is not available.

**Symptoms**

No information available.

**Acute toxicity****Numerical measures of toxicity**

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate	= 8100 mg/kg ( Rat )	-	-

**Delayed and immediate effects and also chronic effects from short and long term exposure****Skin corrosion/irritation**

No information available.

**Serious eye damage/irritation**

No information available.

**Respiratory or skin sensitization**

No information available.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

No information available.

**Reproductive toxicity**

No information available.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

No information available.

**Aspiration hazard**

No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility****Mobility in soil**

No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

### 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. TRANSPORT INFORMATION

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

### 15. REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

### 16. OTHER INFORMATION

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 08-Apr-2021

**Revision Note** SDS sections updated. 2. 3.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend** Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

---

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

**Disclaimer**

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 19-Nov-2021

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** E. coli HB101 Lyophilized

### Other means of identification

**Catalogue Number(s)** 1660408, 1660408EDU, 9702924

**Registration Number(s)** No information available

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS)

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

Biosafety Level 1 - Agents not known to consistently cause disease in healthy adults and that present minimal potential hazard to laboratory personnel and the environment, are present in this product Contains human source material and / or potentially infectious components

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

Chemical name	CAS No	Weight-%
BSL1 Bacteria NO-CAS-104	NO-CAS-104	100

**4. FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water.
Eye contact	Call a physician if irritation persists.
Ingestion	Call a physician.

**For emergency responders**

Self-protection of the first aider	No information available.
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**Most important symptoms and effects, both acute and delayed**

Symptoms	No information available.
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**Indication of immediate medical attention and special treatment needed, if necessary**

Note to physicians	Treat symptomatically.
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**5. FIREFIGHTING MEASURES****Suitable Extinguishing Media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
------------------------------	---

Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
------------	--

Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
--------------------------------	---

**Specific hazards arising from the chemical**

Specific hazards arising from the chemical	No information available.
--	---------------------------

**Special protective actions for fire-fighters**

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
--	--

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

**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.
-------------------------	---



<b>Methods for cleaning up</b>	Clean contaminated surface thoroughly.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
--------------------------------	--

### Conditions for safe storage, including any incompatibilities

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies
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### Appropriate engineering controls

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
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### Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Hand protection</b>	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>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	light pink		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>	8	No information available	
<b>Melting point / freezing point</b>		No information available	
<b>Boiling point / boiling range</b>	100 °C / 212 °F	No information available	
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	

Relative density	No information available
Solubility(ies)	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**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.
----------------------------------	---

**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms	No information available.
----------	---------------------------

**Acute toxicity****Numerical measures of toxicity**

**Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**14. TRANSPORT INFORMATION**

**IMDG** Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code No information available

IATA Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

## 16. OTHER INFORMATION

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 19-Nov-2021

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

### 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		

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 25-Mar-2022

Revision Number 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** EDU 500 BP RULER, BOTTLED

### Other means of identification

**Catalogue Number(s)** 10013562

**Registration Number(s)** No information available

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

### Supplier's details

#### 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 Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS)

### GHS Label elements, including precautionary statements

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Not applicable

Mixture**4. FIRST AID MEASURES**Description of necessary first aid measures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth thoroughly with water.

For emergency responders

Self-protection of the first aider	No information available.
------------------------------------	---------------------------

Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
----------	---------------------------

Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
--------------------	------------------------

**5. FIREFIGHTING MEASURES**Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
------------------------------	---

Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
------------	--

Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
--------------------------------	---

Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
--	---------------------------

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
--	--

**6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
---------------------------	---

Methods and material for containment and cleaning up

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 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** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odour</b>	Odourless
<b>Appearance</b>	aqueous solution	<b>Odour threshold</b>	No information available
<b>Colour</b>	colourless		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>		No information available	
<b>Melting point / freezing point</b>		No information available	
<b>Boiling point / boiling range</b>	100 °C / 212 °F		
<b>Flash point</b>		No information available	
<b>Evaporation rate</b>		No information available	
<b>Flammability (solid, gas)</b>		No information available	
<b>Upper/lower flammability or explosive limits</b>			
<b>Upper flammability or explosive limits</b>	Not applicable		
<b>Lower flammability or explosive limits</b>	Not applicable		
<b>Vapour pressure</b>		No information available	

Vapour density	No information available
Relative density	No information available
Solubility(ies)	
Water solubility	Miscible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	
Kinematic viscosity	No information available
Dynamic viscosity	

**Other information**

Oxidising properties	Not applicable
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**10. STABILITY AND REACTIVITY****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

Conditions to avoid	None known based on information supplied.
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**Incompatible materials**

Incompatible materials	None known based on information supplied.
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**Hazardous decomposition products**

Hazardous decomposition products	None known based on information supplied.
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**11. TOXICOLOGICAL INFORMATION****Information on the likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	No information available.

**Acute toxicity**



**Numerical measures of toxicity****Delayed and immediate effects and also chronic effects from short and long term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Toxicity**

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**14. TRANSPORT INFORMATION**

<b>IMDG</b>	Not regulated
<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	No information available
<b>IATA</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated
<b>Special precautions for user</b>	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**16. OTHER INFORMATION**

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
<b>Revision date</b>	25-Mar-2022
<b>Revision Note</b>	*** Indicates this information has changed since the previous revision.

**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		

**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**