

# KIT SAFETY DATA SHEET



**Kit Product Name** Bio-Plex Human Cytokine Assay Kit  
**Kit Catalogue Number(s)** 171A1001P  
**Revision date** 15-Aug-2023

## Kit Contents

Catalogue Number(s)	Product Name
9723892, 9703892, 9704415, 10014822, 10014823	Bio-Plex Assay Buffer
10014642	Bio-Plex Sample Diluent
171DM0001, 171D10001, 10004929, 171D10002, 10002134, 10002842, 171I10002, 10001855, 171D10501, 171D10502, 171I10501, 171I10502, 171DC5000, 171DC5001, 171DA0001, 171DA0501, 171I70050, 171D50001, 171D60001, 171I50001, 171I60001, 10040214, 10040216, 171DM0502, 171DM0501, 12005502, 12005503	Bio-Plex Standard / Control
10008286	Human Serum Standard Diluent
9704717	Human Plasma Standard Diluent
10014485	Bio-Plex Cytokine Detection Antibody
171304500, 9703893, 9704416	Bio-Plex Wash Buffer A
10014639, 9703894, 9704417, 10014640	Bio-Plex Detection Antibody Diluent
171304501, 9704418, 9703887, 9703897	Streptavidin-PE
10006311	Cytokine Coupled Magnetic Beads (25x)



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** Bio-Plex Assay Buffer

**Revision date** 18-Oct-2022

**Revision Number** 1.1

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

### Product identifier

**Product Name** Bio-Plex Assay Buffer

**Catalogue Number(s)** 9723892, 9703892, 9704415, 10014822, 10014823

### Other means of identification

**Pure substance/mixture** Mixture

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

No significant adverse health effects

**Appearance** aqueous solution

**Physical state** Liquid

**Odour** Odourless

### Classification of the substance or mixture

Not classified

### Label elements

#### **Hazard statements**

Not classified

#### **Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

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

Not applicable

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

Not applicable.

**Mixture**

Not classified.

Chemical name	Weight-%	CAS No
Water	50 - 100	7732-18-5
Trade secret	1 - 2.5	-
Trade secret	0.3 - 0.99	-
Trade secret	0.1 - 0.299	-

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

No hazards which require special first aid measures.

**Inhalation**

Remove to fresh air.

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

Wash skin with soap and water.

**Ingestion**

Rinse mouth thoroughly with water.

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

No information available.

**For emergency responders**

No information available.

**Note to doctors**

Treat symptomatically.

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

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

**Unsuitable extinguishing media**

No information available.

**Specific hazards arising from the**

No information available.

chemicalSpecial protective actions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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

See section 8 for more information.

**For emergency responders**

Use personal protection recommended in Section 8.

**Environmental precautions**

See Section 12 for additional Ecological Information.

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

Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers.

**Precautions to prevent secondary hazards**

Clean contaminated objects and areas thoroughly observing environmental regulations.

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

Handle in accordance with good industrial hygiene and safety practice. See Section 8 for information on appropriate personal protective equipment.

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

Store according to product and label instructions.

**Incompatible materials**

None known based on information supplied.

**SECTION 8: Exposure controls/personal protection****Occupational exposure limits**

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

**Note**

See section 16 for terms and abbreviations

**Biological occupational exposure limits**

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

**Monitoring and observation processes**

No applicable information was found.

**Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

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

Wear safety glasses with side shields (or goggles).

**Skin and body protection**

Wear suitable protective clothing.

**Hand protection**

Wear suitable gloves.

<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	7.4	
<b>Melting point / freezing point</b>	0 °C	
<b>Boiling point / boiling range</b>	100 °C	
<b>Flash point</b>	No data available	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapour pressure</b>	No data available	None known
<b>Vapour density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Miscible in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

### Additional information

<b>Explosive properties</b>	Not applicable
<b>Oxidising properties</b>	Not applicable

## SECTION 10: Stability and reactivity

<b><u>Stability</u></b>	Stable under normal conditions.
<b><u>Possibility of hazardous reactions</u></b>	None under normal processing.
<b><u>Sensitivity to mechanical impact</u></b>	None.
<b><u>Sensitivity to static discharge</u></b>	None.
<b><u>Conditions to avoid</u></b>	None known based on information supplied.
<b><u>Incompatible materials</u></b>	None known based on information supplied.
<b><u>Hazardous decomposition products</u></b>	None known based on information supplied.

## SECTION 11: Toxicological information

### Acute toxicity

### Numerical measures of toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Trade secret	= 3 g/kg ( Rat )	> 10000 mg/kg ( Rabbit )	> 42 mg/L ( Rat ) 1 h
Trade secret	= 8290 mg/kg ( Rat )	> 7940 mg/kg ( Rabbit )	> 0.83 mg/L ( Rat ) 4 h

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

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

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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

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

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

**Specific target organ toxicity — single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity — repeated exposure** Based on available data, the classification criteria are not met.

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

## SECTION 12: Ecological information

### Ecotoxicity

**Unknown aquatic toxicity** 0.095 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea
Trade secret	-	LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus) LC50: =12946mg/L (96h, Lepomis macrochirus) LC50: 6020 - 7070mg/L (96h, Pimephales promelas) LC50: =7050mg/L (96h, Pimephales promelas) LC50: 6420 - 6700mg/L (96h, Pimephales promelas) LC50: 4747 - 7824mg/L (96h, Oncorhynchus mykiss)	EC50: =1000mg/L (48h, Daphnia magna) EC50: 340.7 - 469.2mg/L (48h, Daphnia magna)

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

**Mobility in soil** No information available.

**SECTION 13: Disposal considerations**

<u>Waste chemicals</u>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<u>Contaminated packaging</u>	Do not reuse empty containers.

**SECTION 14: Transport information**

<u>IMDG</u>	Not regulated
<u>Transport in bulk according to Annex II of MARPOL and the IBC Code</u>	No information available
<u>IATA</u>	Not regulated
<u>China</u>	Not regulated
<b>Special precautions for user</b> Please refer to the applicable dangerous goods regulations for additional information	

**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalogue of occupational hazard factors:	Not applicable.
Catalogue of occupational diseases:	Not applicable.

**Regulations on the Control over Safety of Hazardous Chemicals**

<u>Inventory of hazardous chemicals</u>	Not applicable.
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<u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u>	Not applicable
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<b>List of hazardous chemicals under priority management</b>	Not applicable
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**Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used**

<u>Inventory of highly toxic goods</u>	Not applicable
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**Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

<u>List of toxic chemicals severely restricted for import and export in China</u>	Not applicable
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**Measures for the Environmental Management of New Chemical Substances**

<b>IECSC - China Inventory of Existing Chemical Substances</b>	Contact supplier for inventory compliance status.
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**International Regulations**

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

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

**The Rotterdam Convention** Not applicable

**SECTION 16: Other information**

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

Revision date 18-Oct-2022

Revision Note Reformatted and updated existing information.

**Abbreviations and acronyms**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

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

**End of Safety Data Sheet**





# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** Bio-Plex Sample Diluent

**Revision date** 09-Aug-2023

**Revision Number** 1

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

### Product identifier

**Product Name** Bio-Plex Sample Diluent

**Catalogue Number(s)** 10014642

### Other means of identification

**Pure substance/mixture** Mixture

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

No significant adverse health effects

**Appearance** aqueous solution

**Physical state** Liquid

**Odour** Odourless

### Classification of the substance or mixture

Not classified

### Label elements

#### **Hazard statements**

Not classified

#### **Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

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

Contains animal source material (Cattle)

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

Not applicable.

**Mixture**

Not classified.

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

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Rinse mouth thoroughly with water.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	No information available.
<b><u>For emergency responders</u></b>	No information available.
<b><u>Note to doctors</u></b>	Treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.
<b><u>Specific hazards arising from the chemical</u></b>	No information available.
<b><u>Special protective actions for fire-fighters</u></b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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

<b>Personal precautions</b>	See section 8 for more information.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b><u>Environmental precautions</u></b>	See Section 12 for additional Ecological Information.
<b><u>Methods and material for containment and cleaning up</u></b>	Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers.
<b><u>Precautions to prevent secondary hazards</u></b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

**SECTION 7: Handling and storage**

<b><u>Precautions for safe handling</u></b>	Handle in accordance with good industrial hygiene and safety practice. See Section 8 for information on appropriate personal protective equipment.
<b><u>Conditions for safe storage, including any incompatibilities</u></b>	Store according to product and label instructions.
<b>Incompatible materials</b>	None known based on information supplied.

**SECTION 8: Exposure controls/personal protection****Occupational exposure limits**

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

**Note** See section 16 for terms and abbreviations

**Biological occupational exposure limits**

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

**Monitoring and observation processes**

No applicable information was found.

<b><u>Engineering controls</u></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.

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

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

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	7.4	
Melting point / freezing point	0 °C	
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

**Additional information**

Explosive properties	Not applicable
Oxidising properties	Not applicable

**SECTION 10: Stability and reactivity**

**Stability** Stable under normal conditions.

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

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

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

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

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

**SECTION 11: Toxicological information****Acute toxicity****Numerical measures of toxicity**

**Component Information**

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

**SECTION 12: Ecological information**

<b><u>Ecotoxicity</u></b>	The environmental impact of this product has not been fully investigated.
<b>Unknown aquatic toxicity</b>	0.095 % of the mixture consists of component(s) of unknown hazards to the aquatic environment
<b><u>Persistence and degradability</u></b>	No information available.
<b><u>Bioaccumulative potential</u></b>	No information available.
<b><u>Mobility in soil</u></b>	No information available.

**SECTION 13: Disposal considerations**

<b><u>Waste chemicals</u></b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b><u>Contaminated packaging</u></b>	Do not reuse empty containers.

**SECTION 14: Transport information**

<b><u>IMDG</u></b>	Not regulated
<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	No information available

<b><u>IATA</u></b>	Not regulated
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<b><u>China</u></b>	Not regulated
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**Special precautions for user**

Please refer to the applicable dangerous goods regulations for additional information

## SECTION 15: Regulatory information

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

#### National regulations

##### **Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalogue of occupational hazard factors:	Not applicable.
Catalogue of occupational diseases:	Not applicable.

##### **Regulations on the Control over Safety of Hazardous Chemicals**

<u>Inventory of hazardous chemicals</u>	Not applicable.
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<u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u>	Not applicable
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<b>List of hazardous chemicals under priority management</b>	Not applicable
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##### **Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used**

Inventory of highly toxic goods	Not applicable
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##### **Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

List of toxic chemicals severely restricted for import and export in China	Not applicable
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##### **Measures for the Environmental Management of New Chemical Substances**

<b>IECSC - China Inventory of Existing Chemical Substances</b>	Contact supplier for inventory compliance status.
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#### International Regulations

<b>The Montreal Protocol on Substances that Deplete the Ozone Layer</b>	Not applicable
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<b>The Stockholm Convention on Persistent Organic Pollutants</b>	Not applicable
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<b>The Rotterdam Convention</b>	Not applicable
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## SECTION 16: Other information

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
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<b>Revision date</b>	09-Aug-2023
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<b>Revision Note</b>	Significant changes throughout SDS. Review all sections.
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#### **Abbreviations and acronyms**

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

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

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

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

NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** Bio-Plex Standard / Control

**Revision date** 09-Aug-2023

**Revision Number** 1.2

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

### Product identifier

**Product Name** Bio-Plex Standard / Control

**Catalogue Number(s)** 171DM0001, 171D10001, 10004929, 171D10002, 10002134, 10002842, 171I10002, 10001855, 171D10501, 171D10502, 171I10501, 171I10502, 171DC5000, 171DC5001, 171DA0001, 171DA0501, 171I70050, 171D50001, 171D60001, 171I50001, 171I60001, 10040214, 10040216, 171DM0502, 171DM0501, 12005502, 12005503

### Other means of identification

**Pure substance/mixture** Mixture

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

No significant adverse health effects

**Appearance** powder or cake, lyophilised **Physical state** Solid **Odour** Odourless

### Classification of the substance or mixture

**Acute toxicity - Oral** Category 5

### Label elements

**Signal word** Warning

**Hazard statements**



May be harmful if swallowed

**Precautionary statements****Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: If large quantities of this material are swallowed, call a doctor immediately. If symptoms persist, call a doctor.

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

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

Not applicable

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

Not applicable.

**Mixture**

Chemical name	Weight-%	CAS No
Trade secret	5 - 10	-

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

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Rinse mouth thoroughly with water.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	No information available.
<b><u>For emergency responders</u></b>	No information available.
<b><u>Note to doctors</u></b>	Treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.

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

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

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

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

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

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

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

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

**Precautions to prevent secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

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

**Precautions for safe handling** Handle in accordance with good industrial hygiene and safety practice. See Section 8 for information on appropriate personal protective equipment.

**Conditions for safe storage, including any incompatibilities** Store according to product and label instructions.

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

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

### **Occupational exposure limits**

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

**Note** See section 16 for terms and abbreviations

### **Biological occupational exposure limits**

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

### **Monitoring and observation processes**

No applicable information was found.

**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.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	powder or cake, lyophilised
<b>Colour</b>	white
<b>Physical state</b>	Solid
<b>Odour</b>	Odourless
<b>Odour threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>		None known
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	1461 °C	
<b>Flash point</b>	No data available	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapour pressure</b>	No data available	None known
<b>Vapour density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Soluble in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

### Additional information

<b>Explosive properties</b>	Not applicable
<b>Oxidising properties</b>	Not applicable

## SECTION 10: Stability and reactivity

<b>Stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	None.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Incompatible materials</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.

## SECTION 11: Toxicological information

### Acute toxicity

**Numerical measures of toxicity**

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

ATEmix (oral) 3,129.50 mg/kg

**Unknown acute toxicity**

90.112 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Trade secret	= 3 g/kg ( Rat )	> 10000 mg/kg ( Rabbit )	> 42 mg/L ( Rat ) 1 h

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

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

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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

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

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

**Specific target organ toxicity — single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity — repeated exposure** Based on available data, the classification criteria are not met.

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

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

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

Chemical name	Algae/aquatic plants	Fish	Crustacea
Trade secret	-	LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus) LC50: =12946mg/L (96h, Lepomis macrochirus) LC50: 6020 - 7070mg/L (96h, Pimephales promelas) LC50: =7050mg/L (96h, Pimephales promelas) LC50: 6420 - 6700mg/L (96h, Pimephales promelas) LC50: 4747 - 7824mg/L (96h, Oncorhynchus mykiss)	EC50: =1000mg/L (48h, Daphnia magna) EC50: 340.7 - 469.2mg/L (48h, Daphnia magna)

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

**Mobility in soil** No information available.

### SECTION 13: Disposal considerations

**Waste chemicals** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

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

### SECTION 14: Transport information

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

**IATA** Not regulated

**China** Not regulated

#### Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

### SECTION 15: Regulatory information

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

##### National regulations

##### Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Catalogue of occupational hazard factors: Not applicable.  
 Catalogue of occupational diseases: Not applicable.

##### Regulations on the Control over Safety of Hazardous Chemicals

Inventory of hazardous chemicals Not applicable.

GB 18218-2009 Identification of major hazard installations for dangerous chemicals Not applicable

**List of hazardous chemicals under priority management** Not applicable

##### Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used

Inventory of highly toxic goods Not applicable

##### Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

List of toxic chemicals severely restricted for import and export in China Not applicable

##### Measures for the Environmental Management of New Chemical Substances

**IECSC - China Inventory of Existing Chemical Substances** Contact supplier for inventory compliance status.

##### International Regulations

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

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

**The Rotterdam Convention** Not applicable

### SECTION 16: Other information

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

**Revision date** 09-Aug-2023

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

#### Abbreviations and acronyms

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

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGl(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

#### Disclaimer

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** Human Serum Standard Diluent

**Revision date** 09-Aug-2023

**Revision Number** 1

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

### Product identifier

**Product Name** Human Serum Standard Diluent

**Catalogue Number(s)** 10008286

### Other means of identification

**Pure substance/mixture** Mixture

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

No significant adverse health effects

**Appearance** aqueous solution

**Physical state** Liquid

**Odour** Odourless

### Classification of the substance or mixture

Not classified

### Label elements

#### **Hazard statements**

Not classified

#### **Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

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

Contains animal source material (Cattle)

Contains human source material and / or potentially infectious components.

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

Not applicable.

**Mixture**

Not classified.

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

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Contains human source material and / or potentially infectious components. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Call a doctor. Contains human source material and / or potentially infectious components.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	No information available.
<b><u>For emergency responders</u></b>	No information available.
<b><u>Note to doctors</u></b>	Contains human source material and / or potentially infectious components.

**SECTION 5: Firefighting measures****Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.
<b><u>Specific hazards arising from the chemical</u></b>	No information available.
<b><u>Special protective actions for</u></b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.



fire-fighters Use personal protection equipment.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

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

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

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

**Methods and material for containment and cleaning up** Do not allow into any sewer, on the ground or into any body of water. Clean contaminated surface thoroughly. Use: Disinfectant.

**Precautions to prevent secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## SECTION 7: Handling and storage

**Precautions for safe handling** Handle in accordance with good industrial hygiene and safety practice. Follow universal and standard precautions for handling potentially infectious materials. See Section 8 for information on appropriate personal protective equipment.

**Conditions for safe storage, including any incompatibilities** Store according to product and label instructions.

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

## SECTION 8: Exposure controls/personal protection

### Occupational exposure limits

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

**Note** See section 16 for terms and abbreviations

### Biological occupational exposure limits

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

### Monitoring and observation processes

No applicable information was found.

**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** Follow universal and standard precautions for handling potentially infectious materials.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.4	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	> 100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

### Additional information

Explosive properties	Not applicable
Oxidising properties	Not applicable

## SECTION 10: Stability and reactivity

**Stability** Stable under normal conditions.

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

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

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

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

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

## SECTION 11: Toxicological information

### Acute toxicity

### Numerical measures of toxicity

**Component Information**

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

**SECTION 12: Ecological information**

<b><u>Ecotoxicity</u></b>	The environmental impact of this product has not been fully investigated.
<b>Unknown aquatic toxicity</b>	0.0941 % of the mixture consists of component(s) of unknown hazards to the aquatic environment
<b><u>Persistence and degradability</u></b>	No information available.
<b><u>Bioaccumulative potential</u></b>	No information available.
<b><u>Mobility in soil</u></b>	No information available.

**SECTION 13: Disposal considerations**

<b><u>Waste chemicals</u></b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b><u>Contaminated packaging</u></b>	Do not reuse empty containers.

**SECTION 14: Transport information**

<b><u>IMDG</u></b>	Not regulated
<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	No information available
<b><u>IATA</u></b>	Not regulated
<b><u>China</u></b>	Not regulated

**Special precautions for user**

Please refer to the applicable dangerous goods regulations for additional information

**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalogue of occupational hazard factors:	Not applicable.
Catalogue of occupational diseases:	Not applicable.

**Regulations on the Control over Safety of Hazardous Chemicals**

<u>Inventory of hazardous chemicals</u>	Not applicable.
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<u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u>	Not applicable
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<b>List of hazardous chemicals under priority management</b>	Not applicable
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**Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used**

Inventory of highly toxic goods	Not applicable
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**Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

List of toxic chemicals severely restricted for import and export in China	Not applicable
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**Measures for the Environmental Management of New Chemical Substances**

<b>IECSC - China Inventory of Existing Chemical Substances</b>	Contact supplier for inventory compliance status.
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**International Regulations**

<b>The Montreal Protocol on Substances that Deplete the Ozone Layer</b>	Not applicable
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<b>The Stockholm Convention on Persistent Organic Pollutants</b>	Not applicable
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<b>The Rotterdam Convention</b>	Not applicable
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**SECTION 16: Other information**

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
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<b>Revision date</b>	09-Aug-2023
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<b>Revision Note</b>	Significant changes throughout SDS. Review all sections.
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**Abbreviations and acronyms****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

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

Japan GHS Classification

Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications

Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme

Organisation for Economic Co-operation and Development Screening Information Data Set

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

**Disclaimer**

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** Human Plasma Standard Diluent

**Revision date** 09-Aug-2023

**Revision Number** 1

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

### Product identifier

**Product Name** Human Plasma Standard Diluent

**Catalogue Number(s)** 9704717

### Other means of identification

**Pure substance/mixture** Mixture

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

No significant adverse health effects

**Appearance** aqueous solution

**Physical state** Liquid

**Odour** Odourless

### Classification of the substance or mixture

Not classified

### Label elements

#### **Hazard statements**

Not classified

#### **Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

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

Contains animal source material (Cattle)

Contains human source material and / or potentially infectious components.

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

Not applicable.

**Mixture**

Not classified.

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

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Contains human source material and / or potentially infectious components. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Call a doctor. Contains human source material and / or potentially infectious components.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	No information available.
<b><u>For emergency responders</u></b>	No information available.
<b><u>Note to doctors</u></b>	Contains human source material and / or potentially infectious components.

**SECTION 5: Firefighting measures****Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.
<b><u>Specific hazards arising from the chemical</u></b>	No information available.
<b><u>Special protective actions for</u></b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

fire-fighters Use personal protection equipment.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

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

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

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

**Methods and material for containment and cleaning up** Do not allow into any sewer, on the ground or into any body of water. Clean contaminated surface thoroughly. Use: Disinfectant.

**Precautions to prevent secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## SECTION 7: Handling and storage

**Precautions for safe handling** Handle in accordance with good industrial hygiene and safety practice. Follow universal and standard precautions for handling potentially infectious materials. See Section 8 for information on appropriate personal protective equipment.

**Conditions for safe storage, including any incompatibilities** Store according to product and label instructions.

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

## SECTION 8: Exposure controls/personal protection

### Occupational exposure limits

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

**Note** See section 16 for terms and abbreviations

### Biological occupational exposure limits

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

### Monitoring and observation processes

No applicable information was found.

**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** Follow universal and standard precautions for handling potentially infectious materials.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	aqueous solution
<b>Colour</b>	light yellow
<b>Physical state</b>	Liquid
<b>Odour</b>	Odourless
<b>Odour threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.4	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	> 100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

### Additional information

<b>Explosive properties</b>	Not applicable
<b>Oxidising properties</b>	Not applicable

## SECTION 10: Stability and reactivity

**Stability** Stable under normal conditions.

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

**Sensitivity to mechanical impact** None.  
**Sensitivity to static discharge** None.

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

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

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

## SECTION 11: Toxicological information

### Acute toxicity

### Numerical measures of toxicity

**Component Information**

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

**SECTION 12: Ecological information**

<b><u>Ecotoxicity</u></b>	The environmental impact of this product has not been fully investigated.
<b>Unknown aquatic toxicity</b>	0.0941 % of the mixture consists of component(s) of unknown hazards to the aquatic environment
<b><u>Persistence and degradability</u></b>	No information available.
<b><u>Bioaccumulative potential</u></b>	No information available.
<b><u>Mobility in soil</u></b>	No information available.

**SECTION 13: Disposal considerations**

<b><u>Waste chemicals</u></b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b><u>Contaminated packaging</u></b>	Do not reuse empty containers.

**SECTION 14: Transport information**

<b><u>IMDG</u></b>	Not regulated
<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	No information available
<b><u>IATA</u></b>	Not regulated
<b><u>China</u></b>	Not regulated

**Special precautions for user**

Please refer to the applicable dangerous goods regulations for additional information

**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalogue of occupational hazard factors:

Not applicable.

Catalogue of occupational diseases:

Not applicable.

**Regulations on the Control over Safety of Hazardous Chemicals**Inventory of hazardous chemicals

Not applicable.

GB 18218-2009 Identification of major hazard installations for dangerous chemicals

Not applicable

**List of hazardous chemicals under priority management**

Not applicable

**Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used**

Inventory of highly toxic goods

Not applicable

**Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

List of toxic chemicals severely restricted for import and export in China

Not applicable

**Measures for the Environmental Management of New Chemical Substances****IECSC - China Inventory of Existing Chemical Substances** Contact supplier for inventory compliance status.**International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**SECTION 16: Other information****Prepared By** Bio-Rad Laboratories, Environmental Health and Safety**Revision date** 09-Aug-2023**Revision Note** Significant changes throughout SDS. Review all sections.**Abbreviations and acronyms**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications

Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme

Organisation for Economic Co-operation and Development Screening Information Data Set

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

**Disclaimer**

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** Bio-Plex Cytokine Detection Antibody

**Revision date** 28-Feb-2023

**Revision Number** 1.1

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

### Product identifier

**Product Name** Bio-Plex Cytokine Detection Antibody

**Catalogue Number(s)** 10014485

### Other means of identification

**Pure substance/mixture** Mixture

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

No significant adverse health effects

**Appearance** aqueous solution

**Physical state** Liquid

**Odour** Odourless

### Classification of the substance or mixture

Not classified

### Label elements

#### **Hazard statements**

Not classified

#### **Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

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

Not applicable

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

Not applicable.

**Mixture**

Not classified.

Chemical name	Weight-%	CAS No
Water	50 - 100	7732-18-5
Trade secret	0.3 - 0.99	-
Trade secret	0.1 - 0.299	-
Trade secret	0.1 - 0.299	-
Antibodies	0.01 - 0.099	NO-CAS-81

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

No hazards which require special first aid measures.

**Inhalation**

Remove to fresh air.

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

Wash skin with soap and water.

**Ingestion**

Rinse mouth thoroughly with water.

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

No information available.

**For emergency responders**

No information available.

**Note to doctors**

Treat symptomatically.

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

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

**Unsuitable extinguishing media**

No information available.

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

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

## SECTION 6: Accidental release measures

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

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

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

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

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

**Precautions to prevent secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## SECTION 7: Handling and storage

**Precautions for safe handling** Handle in accordance with good industrial hygiene and safety practice. See Section 8 for information on appropriate personal protective equipment.

**Conditions for safe storage, including any incompatibilities** Store according to product and label instructions.

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

## SECTION 8: Exposure controls/personal protection

### **Occupational exposure limits**

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

**Note** See section 16 for terms and abbreviations

### **Biological occupational exposure limits**

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

### **Monitoring and observation processes**

No applicable information was found.

**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.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	7.4	
<b>Melting point / freezing point</b>	0 °C	
<b>Boiling point / boiling range</b>	No data available	None known
<b>Flash point</b>	No data available	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapour pressure</b>	No data available	None known
<b>Vapour density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Miscible in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

### Additional information

<b>Explosive properties</b>	Not applicable
<b>Oxidising properties</b>	Not applicable

## SECTION 10: Stability and reactivity

<b><u>Stability</u></b>	Stable under normal conditions.
<b><u>Possibility of hazardous reactions</u></b>	None under normal processing.
<b><u>Sensitivity to mechanical impact</u></b>	None.
<b><u>Sensitivity to static discharge</u></b>	None.
<b><u>Conditions to avoid</u></b>	None known based on information supplied.
<b><u>Incompatible materials</u></b>	None known based on information supplied.
<b><u>Hazardous decomposition products</u></b>	None known based on information supplied.

## SECTION 11: Toxicological information

### Acute toxicity



**Numerical measures of toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Trade secret	= 3 g/kg ( Rat )	> 10000 mg/kg ( Rabbit )	> 42 mg/L ( Rat ) 1 h
Trade secret	= 8290 mg/kg ( Rat )	> 7940 mg/kg ( Rabbit )	> 0.83 mg/L ( Rat ) 4 h

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

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

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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

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

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

**Specific target organ toxicity — single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity — repeated exposure** Based on available data, the classification criteria are not met.

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

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

**Unknown aquatic toxicity** 0.095 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

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

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

**Mobility in soil** No information available.

**SECTION 13: Disposal considerations**

<b><u>Waste chemicals</u></b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b><u>Contaminated packaging</u></b>	Do not reuse empty containers.

**SECTION 14: Transport information**

<b><u>IMDG</u></b>	Not regulated
<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	No information available

<b><u>IATA</u></b>	Not regulated
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<b><u>China</u></b>	Not regulated
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**Special precautions for user**

Please refer to the applicable dangerous goods regulations for additional information

**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalogue of occupational hazard factors:	Not applicable.
Catalogue of occupational diseases:	Not applicable.

**Regulations on the Control over Safety of Hazardous Chemicals**

<u>Inventory of hazardous chemicals</u>	Not applicable.
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<u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u>	Not applicable
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<b>List of hazardous chemicals under priority management</b>	Not applicable
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**Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used**

Inventory of highly toxic goods	Not applicable
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**Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

List of toxic chemicals severely restricted for import and export in China	Not applicable
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**Measures for the Environmental Management of New Chemical Substances**

<b>IECSC - China Inventory of Existing Chemical Substances</b>	Contact supplier for inventory compliance status.
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**International Regulations**

<b>The Montreal Protocol on Substances that Deplete the Ozone Layer</b>	Not applicable
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<b>The Stockholm Convention on Persistent Organic Pollutants</b>	Not applicable
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<b>The Rotterdam Convention</b>	Not applicable
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**SECTION 16: Other information**

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety**Revision date** 28-Feb-2023**Revision Note** Reformatted and updated existing information.**Abbreviations and acronyms****Legend** Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AELG(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** Bio-Plex Wash Buffer A

**Revision date** 17-May-2023

**Revision Number** 1.1

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

### Product identifier

**Product Name** Bio-Plex Wash Buffer A  
**Catalogue Number(s)** 171304500, 9703893, 9704416

### Other means of identification

**Pure substance/mixture** Mixture

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

No significant adverse health effects

**Appearance** aqueous solution      **Physical state** Liquid      **Odour** Odourless

### Classification of the substance or mixture

Not classified

### Label elements

#### **Hazard statements**

Not classified

#### **Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

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

Not applicable

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

Not applicable.

**Mixture**

Not classified.

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

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Rinse mouth thoroughly with water.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	No information available.
<b><u>For emergency responders</u></b>	No information available.
<b><u>Note to doctors</u></b>	Treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.
<b><u>Specific hazards arising from the chemical</u></b>	No information available.
<b><u>Special protective actions for fire-fighters</u></b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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

<b>Personal precautions</b>	See section 8 for more information.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b><u>Environmental precautions</u></b>	See Section 12 for additional Ecological Information.
<b><u>Methods and material for containment and cleaning up</u></b>	Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers.
<b><u>Precautions to prevent secondary hazards</u></b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

**SECTION 7: Handling and storage**

<b><u>Precautions for safe handling</u></b>	Handle in accordance with good industrial hygiene and safety practice. See Section 8 for information on appropriate personal protective equipment.
<b><u>Conditions for safe storage, including any incompatibilities</u></b>	Store according to product and label instructions.
<b>Incompatible materials</b>	None known based on information supplied.

**SECTION 8: Exposure controls/personal protection****Occupational exposure limits**

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

**Note** See section 16 for terms and abbreviations

**Biological occupational exposure limits**

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

**Monitoring and observation processes**

No applicable information was found.

<b><u>Engineering controls</u></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.

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

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

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	7.4	
Melting point / freezing point	0 °C	
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

**Additional information**

Explosive properties	Not applicable
Oxidising properties	Not applicable

**SECTION 10: Stability and reactivity**

**Stability** Stable under normal conditions.

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

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

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

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

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

**SECTION 11: Toxicological information****Acute toxicity****Numerical measures of toxicity**

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

## SECTION 12: Ecological information

### Ecotoxicity

**Unknown aquatic toxicity** 0.095 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

**Mobility in soil** No information available.

## SECTION 13: Disposal considerations

**Waste chemicals** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

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

## SECTION 14: Transport information

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

**IATA** Not regulated

**China** Not regulated

**Special precautions for user**  
Please refer to the applicable dangerous goods regulations for additional information

## SECTION 15: Regulatory information



**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalogue of occupational hazard factors:	Not applicable.
Catalogue of occupational diseases:	Not applicable.

**Regulations on the Control over Safety of Hazardous Chemicals**

<u>Inventory of hazardous chemicals</u>	Not applicable.
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<u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u>	Not applicable
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<b>List of hazardous chemicals under priority management</b>	Not applicable
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**Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used**

Inventory of highly toxic goods	Not applicable
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**Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

List of toxic chemicals severely restricted for import and export in China	Not applicable
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**Measures for the Environmental Management of New Chemical Substances**

<b>IECSC - China Inventory of Existing Chemical Substances</b>	Contact supplier for inventory compliance status.
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**International Regulations**

<b>The Montreal Protocol on Substances that Deplete the Ozone Layer</b>	Not applicable
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<b>The Stockholm Convention on Persistent Organic Pollutants</b>	Not applicable
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<b>The Rotterdam Convention</b>	Not applicable
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**SECTION 16: Other information**

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
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<b>Revision date</b>	17-May-2023
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<b>Revision Note</b>	Reformatted and updated existing information.
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**Abbreviations and acronyms****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

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

National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** Bio-Plex Detection Antibody Diluent

**Revision date** 09-Aug-2023

**Revision Number** 1.1

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

### Product identifier

**Product Name** Bio-Plex Detection Antibody Diluent

**Catalogue Number(s)** 10014639, 9703894, 9704417, 10014640

### Other means of identification

**Pure substance/mixture** Mixture

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

No significant adverse health effects

**Appearance** aqueous solution

**Physical state** Liquid

**Odour** Odourless

### Classification of the substance or mixture

Not classified

### Label elements

#### **Hazard statements**

Not classified

#### **Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

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

Contains animal source material (Cattle)

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

Not applicable.

**Mixture**

Not classified.

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

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Rinse mouth thoroughly with water.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	No information available.
<b><u>For emergency responders</u></b>	No information available.
<b><u>Note to doctors</u></b>	Treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.
<b><u>Specific hazards arising from the chemical</u></b>	No information available.
<b><u>Special protective actions for fire-fighters</u></b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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

<b>Personal precautions</b>	See section 8 for more information.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b><u>Environmental precautions</u></b>	See Section 12 for additional Ecological Information.
<b><u>Methods and material for containment and cleaning up</u></b>	Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers.
<b><u>Precautions to prevent secondary hazards</u></b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

**SECTION 7: Handling and storage**

<b><u>Precautions for safe handling</u></b>	Handle in accordance with good industrial hygiene and safety practice. See Section 8 for information on appropriate personal protective equipment.
<b><u>Conditions for safe storage, including any incompatibilities</u></b>	Store according to product and label instructions.
<b>Incompatible materials</b>	None known based on information supplied.

**SECTION 8: Exposure controls/personal protection****Occupational exposure limits**

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

**Note** See section 16 for terms and abbreviations

**Biological occupational exposure limits**

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

**Monitoring and observation processes**

No applicable information was found.

<b><u>Engineering controls</u></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.

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

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

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	7.4	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

**Additional information**

Explosive properties	Not applicable
Oxidising properties	Not applicable

**SECTION 10: Stability and reactivity**

**Stability** Stable under normal conditions.

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

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

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

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

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

**SECTION 11: Toxicological information****Acute toxicity****Numerical measures of toxicity**

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

## SECTION 12: Ecological information

### Ecotoxicity

**Unknown aquatic toxicity** 0.095 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

**Mobility in soil** No information available.

## SECTION 13: Disposal considerations

**Waste chemicals** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

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

## SECTION 14: Transport information

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

**IATA** Not regulated

**China** Not regulated

**Special precautions for user**  
Please refer to the applicable dangerous goods regulations for additional information

## SECTION 15: Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalogue of occupational hazard factors:	Not applicable.
Catalogue of occupational diseases:	Not applicable.

**Regulations on the Control over Safety of Hazardous Chemicals**

<u>Inventory of hazardous chemicals</u>	Not applicable.
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<u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u>	Not applicable
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<b>List of hazardous chemicals under priority management</b>	Not applicable
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**Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used**

Inventory of highly toxic goods	Not applicable
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**Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

List of toxic chemicals severely restricted for import and export in China	Not applicable
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**Measures for the Environmental Management of New Chemical Substances**

<b>IECSC - China Inventory of Existing Chemical Substances</b>	Contact supplier for inventory compliance status.
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**International Regulations**

<b>The Montreal Protocol on Substances that Deplete the Ozone Layer</b>	Not applicable
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<b>The Stockholm Convention on Persistent Organic Pollutants</b>	Not applicable
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<b>The Rotterdam Convention</b>	Not applicable
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**SECTION 16: Other information**

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
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<b>Revision date</b>	09-Aug-2023
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<b>Revision Note</b>	Reformatted and updated existing information.
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**Abbreviations and acronyms****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

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



National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** Streptavidin-PE  
**Revision date** 17-May-2023  
**Revision Number** 1.1

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

### Product identifier

**Product Name** Streptavidin-PE  
**Catalogue Number(s)** 171304501, 9704418, 9703887, 9703897

### Other means of identification

**Pure substance/mixture** Mixture

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

No significant adverse health effects

**Appearance** aqueous solution      **Physical state** Liquid      **Odour** Odourless

### Classification of the substance or mixture

Not classified

### Label elements

#### **Hazard statements**

Not classified

#### **Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

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

Not applicable

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

Not applicable.

**Mixture**

Not classified.

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

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Rinse mouth thoroughly with water.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	No information available.
<b><u>For emergency responders</u></b>	No information available.
<b><u>Note to doctors</u></b>	Treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.
<b><u>Specific hazards arising from the chemical</u></b>	No information available.
<b><u>Special protective actions for fire-fighters</u></b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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

<b>Personal precautions</b>	See section 8 for more information.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b><u>Environmental precautions</u></b>	See Section 12 for additional Ecological Information.
<b><u>Methods and material for containment and cleaning up</u></b>	Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers.
<b><u>Precautions to prevent secondary hazards</u></b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

**SECTION 7: Handling and storage**

<b><u>Precautions for safe handling</u></b>	Handle in accordance with good industrial hygiene and safety practice. See Section 8 for information on appropriate personal protective equipment.
<b><u>Conditions for safe storage, including any incompatibilities</u></b>	Store according to product and label instructions.
<b>Incompatible materials</b>	None known based on information supplied.

**SECTION 8: Exposure controls/personal protection****Occupational exposure limits**

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

**Note** See section 16 for terms and abbreviations

**Biological occupational exposure limits**

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

**Monitoring and observation processes**

No applicable information was found.

<b><u>Engineering controls</u></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.

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

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

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	7.4	
Melting point / freezing point	0 °C	
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

**Additional information**

Explosive properties	Not applicable
Oxidising properties	Not applicable

**SECTION 10: Stability and reactivity**

**Stability** Stable under normal conditions.

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

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

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

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

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

**SECTION 11: Toxicological information****Acute toxicity****Numerical measures of toxicity**

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

## SECTION 12: Ecological information

### Ecotoxicity

**Unknown aquatic toxicity** 0.02 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

**Mobility in soil** No information available.

## SECTION 13: Disposal considerations

**Waste chemicals** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

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

## SECTION 14: Transport information

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

**IATA** Not regulated

**China** Not regulated

**Special precautions for user**  
Please refer to the applicable dangerous goods regulations for additional information

## SECTION 15: Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalogue of occupational hazard factors:	Not applicable.
Catalogue of occupational diseases:	Not applicable.

**Regulations on the Control over Safety of Hazardous Chemicals**

<u>Inventory of hazardous chemicals</u>	Not applicable.
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<u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u>	Not applicable
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<b>List of hazardous chemicals under priority management</b>	Not applicable
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**Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used**

Inventory of highly toxic goods	Not applicable
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**Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

List of toxic chemicals severely restricted for import and export in China	Not applicable
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**Measures for the Environmental Management of New Chemical Substances**

<b>IECSC - China Inventory of Existing Chemical Substances</b>	Contact supplier for inventory compliance status.
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**International Regulations**

<b>The Montreal Protocol on Substances that Deplete the Ozone Layer</b>	Not applicable
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<b>The Stockholm Convention on Persistent Organic Pollutants</b>	Not applicable
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<b>The Rotterdam Convention</b>	Not applicable
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**SECTION 16: Other information**

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
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<b>Revision date</b>	17-May-2023
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<b>Revision Note</b>	Reformatted and updated existing information.
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**Abbreviations and acronyms****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

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

National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

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**End of Safety Data Sheet**





# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** Cytokine Coupled Magnetic Beads (25x)

**Revision date** 09-Aug-2023

**Revision Number** 1

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

### Product identifier

**Product Name** Cytokine Coupled Magnetic Beads (25x)

**Catalogue Number(s)** 10006311

### Other means of identification

**Pure substance/mixture** Mixture

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

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

#### Manufacturer

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

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

No significant adverse health effects

**Appearance** Dilute bead suspension in aqueous solution

**Physical state** Liquid

**Odour** Odourless

### Classification of the substance or mixture

Not classified

### Label elements

#### **Hazard statements**

Not classified

**Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

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

Contains animal source material (Cattle)

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

Not applicable.

**Mixture**

Not classified.

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

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Rinse mouth thoroughly with water.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	No information available.
<b><u>For emergency responders</u></b>	No information available.
<b><u>Note to doctors</u></b>	Treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.
<b><u>Specific hazards arising from the chemical</u></b>	No information available.

**Special protective actions for fire-fighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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

See section 8 for more information.

**For emergency responders**

Use personal protection recommended in Section 8.

**Environmental precautions**

See Section 12 for additional Ecological Information.

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

Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers.

**Precautions to prevent secondary hazards**

Clean contaminated objects and areas thoroughly observing environmental regulations.

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

Handle in accordance with good industrial hygiene and safety practice. See Section 8 for information on appropriate personal protective equipment.

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

Store according to product and label instructions.

**Incompatible materials**

None known based on information supplied.

**SECTION 8: Exposure controls/personal protection****Occupational exposure limits**

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

**Note**

See section 16 for terms and abbreviations

**Biological occupational exposure limits**

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

**Monitoring and observation processes**

No applicable information was found.

**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.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

**Appearance** Dilute bead suspension in aqueous solution  
**Colour** colourless  
**Physical state** Liquid  
**Odour** Odourless  
**Odour threshold** No information available

Property	Values	Remarks • Method
pH	7.4	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Partially miscible	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

### Additional information

**Explosive properties** Not applicable  
**Oxidising properties** Not applicable

## SECTION 10: Stability and reactivity

**Stability** Stable under normal conditions.

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

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

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

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

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

## SECTION 11: Toxicological information

### Acute toxicity

### Numerical measures of toxicity

**Component Information**

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

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

**Unknown aquatic toxicity** 0.0795 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

**Mobility in soil** No information available.

**SECTION 13: Disposal considerations**

**Waste chemicals** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

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

**SECTION 14: Transport information**

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

**IATA** Not regulated

**China** Not regulated

**Special precautions for user**

Please refer to the applicable dangerous goods regulations for additional information

## SECTION 15: Regulatory information

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

#### National regulations

##### **Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalogue of occupational hazard factors:	Not applicable.
Catalogue of occupational diseases:	Not applicable.

##### **Regulations on the Control over Safety of Hazardous Chemicals**

<u>Inventory of hazardous chemicals</u>	Not applicable.
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<u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u>	Not applicable
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<b>List of hazardous chemicals under priority management</b>	Not applicable
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##### **Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used**

Inventory of highly toxic goods	Not applicable
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##### **Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

List of toxic chemicals severely restricted for import and export in China	Not applicable
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##### **Measures for the Environmental Management of New Chemical Substances**

<b>IECSC - China Inventory of Existing Chemical Substances</b>	Contact supplier for inventory compliance status.
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#### International Regulations

<b>The Montreal Protocol on Substances that Deplete the Ozone Layer</b>	Not applicable
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<b>The Stockholm Convention on Persistent Organic Pollutants</b>	Not applicable
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<b>The Rotterdam Convention</b>	Not applicable
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## SECTION 16: Other information

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
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<b>Revision date</b>	09-Aug-2023
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<b>Revision Note</b>	Significant changes throughout SDS. Review all sections.
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#### **Abbreviations and acronyms**

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

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

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

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

International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

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**End of Safety Data Sheet**