

KIT SAFETY DATA SHEET



Kit Product Name Bio-Plex Pro Mouse Diabetes Single-Plex Assay

Kit Catalog Number(s) 171G7002M, 171G7003M, 171G7004M, 171G7005M, 171G7006M, 171G7007M, 171G7008M, 171G7009M

Revision date 13-Feb-2024

Kit Contents

Catalog Number(s)	Product Name
9723892, 9703892, 9704415, 10014822, 10014823	Bio-Plex Assay Buffer
12002108, 12002109, 12005854	Mouse HP DAD
171170001, 10014625	Bio-Plex Pro Mouse Diabetes Standard
171304040, 10027955, 12006121, 12005850	Bio-Plex Pro Assays 10X Wash Buffer
10018484, 10018485, 10018486, 10018487, 10018488, 10018489, 10018490, 10018515	Bio-Plex Pro Mouse Diabetes Single-Plex Beads
10018499, 10018500, 10018501, 10018502, 10018503, 10018504, 10018505, 10018506	Bio-Plex Mouse Diabetes Single-Plex Detection
10014641, 9704423, 9703895, 171305043, 10022628, 10041561, 12005851	Bio-Plex Sample Diluent
9703888, 9704424, 171305042, 171304080M, 10022368, 12005853	Bio-Plex Standard Diluent
171304501, 9704418, 9703887, 9703897	Streptavidin-PE

SAFETY DATA SHEET



Revision date 18-Oct-2022

Revision Number 1.1

1. Identification

1.1 Product identifier

1.1.1 Technical Name Bio-Plex Assay Buffer
1.1.2 Recommended use of the chemical and restrictions on use Recommended use: Laboratory chemicals.
Catalog Number(s) 9723892, 9703892, 9704415, 10014822, 10014823

1.2 Detailed information about the manufacturer, supplier, and/or importer

1.2.1 Company Name
1.2.2

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

ООО «Био-Рад Лаборатории»
Нижний Сусальный переулок, дом 5,
строение 5А
105064
Москва
Российская Федерация

1.2.3 Emergency contact information 8-800-700-30-78.
1.2.4 FAX None
1.2.5 E-mail lifesc_support_RCIS@bio-rad.com

2. Hazard(s) identification

2.1 Classification of the substance or mixture

GHS Classification

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

2.2 GHS Label elements, including precautionary statements

2.2.1
2.2.2 Hazard symbols
2.2.3 Hazard statements

PBT and vPvB assessment

No information available.

Chemical name	PBT and vPvB assessment
Trade secret	The substance is not PBT / vPvB
Trade secret	PBT assessment does not apply
Trade secret	The substance is not PBT / vPvB

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

2.3 Other hazards

Not applicable.

3. Composition/information on ingredients**3.1 General product information**

3.1.1 Chemical name (according to IUPAC)

3.1.2 Chemical formula

3.1.3 General characteristics of the product
(including brand and product range; production method)**3.2 Mixture**

(name, CAS and EC numbers, mass fractions (totaling 100%), MAC (Maximum Available Concentrations) or TSEL (Tentative Safe Exposure Level), hazard classifications and references to the sources of data)

		Occupational exposure limits			
Chemical name	Weight-%	MAC, mg/m ³	Hazard class	CAS No	EC No (EU Index No)
Water	97.9			7732-18-5	231-791-2
Trade secret	0 - 10%				Listed
Trade secret	0 - 10%	5	3		Listed
Trade secret	0 - 10%	10	4		Listed
Trade secret	0 - 10%				Listed

4. First-aid measures**4.1 Symptoms**

4.1.1

In case of inhalation poisoning (inhalation)

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

4.1.2

Skin contact

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

4.1.3

Eye contact

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

4.1.4

Ingestion

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

4.2 Description of necessary first aid measures

4.2.1

Inhalation

Remove to fresh air.

4.2.2

Skin contact

In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.

4.2.3

Eye contact

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

4.2.4	physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
4.2.5	
Contraindications	Treat symptomatically. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

5.1	
General description of fire and explosion hazards (according to GOST 12.1.044-89)	No information available.
5.2	
Indicators of fire and explosion hazards	Flammability group: No information available.
Flash point	Not applicable
Minimum Ignition Temperature (°C)	Not applicable
Autoignition temperature	Not applicable
Lower and upper explosion limit/flammability limit	Concentration limit (%): Not applicable
SADT (self-accelerating decomposition temperature)	Temperature range: Not applicable
Smoke production	Not applicable
Polymer combustion product toxicity index	Not applicable
Maximum Pressure Rise (bar)	Not applicable
Maximum Rate of Pressure Rise (bar/sec)	Not applicable
5.3	
Combustion and/or thermal decomposition products and their hazards	No information available.
5.4	
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.5	
Unsuitable extinguishing media	No information available.
5.6	
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
5.7	
Advice for firefighters	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

6. Accidental release measures

6.1 Measures to prevent harm to people, property and the environment in case of an accident or an emergency

6.1.1

Personal precautions, protective equipment and emergency procedures

See section 8 for more information.

6.1.2

Personal Protective Equipment for emergency situations (PPE for first responders)

Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

6.2 Procedures for dealing with accidents and emergencies

6.2.1

Actions in case of leaks and spills (including measures for containment and clean-up, and to ensure protection of the environment)

Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information. Clean contaminated objects and areas thoroughly observing environmental regulations.

6.2.2

Actions in case of fire

Evacuate area and fight fire from a safe distance.

7. Handling and storage

7.1 Precautions for safe handling

7.1.1

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

7.1.2

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Ensure control measures are regularly inspected and maintained. Prevent leaks and prevent soil / water pollution caused by leaks.

7.1.3

Recommendations for safe movement and transportation

See section 14 for more information:

Transport in accordance with the rules for the carriage of goods in force for each mode of transport. Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1

Storage Conditions

Incompatible materials

Store according to product and label instructions. Metals.

7.2.2

Packaging materials

No information available.

7.3

Safety measures for household use and storage

Not intended for household use.

8. Exposure controls/personal protection

8.1

Control parameters

Chemical name	Type	MAC, mg/m ³	Remarks
Trade secret	MAC	5	Aerosol
Trade secret	MAC	10	Aerosol

8.2

Appropriate engineering controls

Provide adequate ventilation. When not in use, keep containers tightly closed.

8.3 Personal protective equipment

8.3.1

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

8.3.2

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.

8.3.3

Personal protection equipment

Skin and body protection:

No special protective equipment required.

Hand protection:

No special protective equipment required.

Eye/face protection:

No special protective equipment required.

8.3.4

Personal protective equipment for household use

Not intended for household use.

9. Physical and chemical properties

9.1 Physical state

(aggregate state, color, odor)

Liquid

Appearance: aqueous solution

Color: colorless

Odor: Odorless

9.2 Information on basic physical and chemical properties

(transition temperatures, pH, solubility, Log Kow (coefficient of n-Octanol/water) and other parameters specific to the type of product)

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.4	
Melting point / freezing point	0 °C	
Initial boiling point and boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known

Upper/lower flammability or explosive limits

Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Solubility(ies)		
Water solubility	No data available	Miscible in water
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Viscosity		
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Oxidizing properties	Not applicable
Explosive properties	Not applicable
Softening point	Not applicable

10. Stability and reactivity**10.1**

Chemical stability	Stable under normal conditions.
Sensitivity to mechanical impact:	None.
Sensitivity to static discharge:	None.
Hazardous decomposition products:	None under normal use conditions.

10.2

Reactivity	No information available.
Possibility of hazardous reactions:	Avoid contact with metals. This product contains sodium azide. Sodium azide can react with copper, brass, lead, and solder in piping systems to form explosive compounds and toxic gases.

10.3

Conditions to avoid	None known.
Incompatible materials:	Metals.

11. Toxicological information**11.1**

General characteristics of exposure (assessment of health hazard (toxicity) and typical symptoms of exposure)	None known.
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11.2 Information on the likely routes of exposure

In case of inhalation poisoning (inhalation)	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

	available.
11.3 Target organs, tissues and biological systems	No information available.
11.4 Information on hazard of direct contact with the product, as well as the consequences of such contact (e.g. irritation of upper respiratory tract, eyes or skin; skin-absorption and sensitizing actions)	The information presented below only applies to the material as supplied.
Skin corrosion/irritation:	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation:	Based on available data, the classification criteria are not met.
Respiratory or skin sensitization:	Based on available data, the classification criteria are not met.
11.5 Information on long-term effects of exposure (e.g. reproductive toxicity, carcinogenicity, mutagenicity, cumulative and other chronic effects)	The information presented below only applies to the material as supplied.
Germ cell mutagenicity:	Based on available data, the classification criteria are not met
Carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
STOT - single exposure:	Based on available data, the classification criteria are not met.
Aspiration hazard:	Based on available data, the classification criteria are not met.
11.6 Acute toxicity data (LD50 with route of exposure and animal species; LC50 with exposure time (h) and animal species)	

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

Component Information

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
Trade secret	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit)	0.054 - 0.52 mg/L (Rat) 4 h

12. Ecological information

12.1

General description of the effects on the environment (atmospheric air, water, soil, including symptoms of exposure)

Environment, air: Air emission controls are not applicable as there is no direct release to air.

Environment, water: Negligible wastewater emissions as process operates without water contact.

Environment, soil: Soil emission controls are not applicable as there is no direct release to soil. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level continual releases.

12.2

Possible routes of release to the environment

Violation of the rules on storage and transportation of products. This product could affect the environment if incorrectly stored and transported, the waste is incinerated, it is discharged into bodies of water, or if there is an accident or emergency. Chemical Incidents.

12.3 Most important characteristics of the environmental impact

12.3.1

Hygienic standards (allowable concentrations in atmospheric air, water, including fishery waters, soils)

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Trade secret -	MAC _{atm} : 0.5 0.15 TSEL _{atm} : 0.15 res Hazard class 3	Not established	Not established	Not established

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Trade secret -	Not established	AALwater: 3.5 san Hazard class 3	MACfish: 0.05 0.15 0.2	Not established

1 - LHI – Limiting Hazard Indicator (tox. – toxicological; s.-t. (san.-tox.) – sanitary-toxicological; org. – organoleptic with indication of the nature of changes regarding organoleptic properties of water; sm. – changes the smell of the water; turb. – increases turbidity; col. – gives color to water; foam – causes foaming; film – forms a film on the water surface; taste. – gives the taste to water; opa. – causes opalescence; refl. – reflexive; res.. – resorptive; refl.-res. – reflexive-resorptive; fishery – fishery (changes in commercial quality of aquatic organisms); san. –general-sanitary)

2 - Bodies of water used for drinking and household use

3 - Bodies of water with fishery significance (including sea waters)

12.3.2

Ecotoxicity data (LC50, EC50, NOEC for fish, *Daphnia magna*, algae and other)

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>)
Trade secret	-	LC50: =0.8mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.7mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =5.46mg/L (96h, <i>Pimephales promelas</i>)	-

12.3.3

Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis, etc.) Persistence and degradability: No information available. Bioaccumulation: No information available. Mobility in soil: No information available. Mobility: No information available.

13. Disposal considerations

13.1

Safety precautions when handling waste arising from use, storage and transportation Ensure waste is collected and contained.

13.2

Information about the places and methods of decontamination, recycling or disposal of waste, including packaging material

Waste from residues/unused products:

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Flush pipes with water frequently if discarding solutions containing sodium azide into metal piping systems.

13.3

Recommendations regarding disposal of waste generated when products are used in household applications

Not intended for household use.

14. Transport information

14.1 UN Number (according to the UN Recommendations on the Transport of Dangerous Goods)

14.2 Proper shipping name

14.3 Appropriate transportation methods

May be transported by all modes of transport in accordance with the rules of transport for dangerous goods effective for the transport of each type.

14.4 Classification of dangerous goods according to GOST 19433-88

14.5 Classification of dangerous goods according to the UN Recommendations on the Transport of Dangerous Goods

14.6 Transport labeling (symbols according to GOST 14192-96)

14.7 Emergency cards (for transportation by rail, sea and other ways)

IMDG EmS-No:

None

IATA ERG Code:

None

Special precautions for user

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

Marine transport (IMDG) Special Provisions

None

15. Regulatory information

15.1 National regulations

15.1.1 Laws of the Russian Federation	Federal law "On the sanitary-epidemiological welfare of the population" Federal law "On technical regulation" Federal law "On production and consumption wastes" Federal law "On industrial safety of hazardous industrial objects" Federal law "On Environmental Protection" Federal law "On the protection of atmospheric air" Federal law "On Fire Safety" The Law of the Russian Federation "On Standardization" "Law on Consumer Protection"
15.1.2 Information about the documents regulating the requirements for protection of people and the environment	None
15.2 International conventions and agreements (e.g. whether the product is regulated by the Montreal Protocol, the Stockholm Convention and others)	
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

16. Other information

16.1 Safety Passport Revision Information (for example, "First issue" or "SP has been reissued due to expiration of the original SP. The prior SP No... ." or "Changes have been made to the following sections... revision date...")

Revision date	18-Oct-2022
Revision Number	1.1
Revision Note	Reformatted and updated existing information

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

This safety data sheet was created pursuant to the requirements of: The Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Technical Regulation "On Safety of Chemical Products", GOST 30333, GOST 31340, GOST 19433, GOST 14192, GOST 32419, GOST 32421, GOST 32423, GOST 32424, GOST 32425, R 50.1.102, R 50.1.101.

Hazardous Substance Database:

- Agency for Toxic Substances and Disease Registry (ATSDR) - Agency for Toxic Substances and Disease Registry (ATSDR)
- CHEMVIEW not translate code - U.S. Environmental Protection Agency ChemView Database
- EFSA not translate code - European Food Safety Authority (EFSA)
- EPA not translate code - EPA (Environmental Protection Agency)
- EPA_AEGL not translate code - Acute Exposure Guideline Level(s) (AEGL(s))

EPA_FIFRA not translate code - U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

EPA_HPVC not translate code - U.S. Environmental Protection Agency High Production Volume Chemicals

FOOD_JOURN not translate code - Food Research Journal

HSDB not translate code - Hazardous Substance Database

IUCLID not translate code - International Uniform Chemical Information Database (IUCLID)

JAPAN_GHS not translate code - Japan GHS Classification

NICNAS not translate code - Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH not translate code - NIOSH (National Institute for Occupational Safety and Health)

NLM_CIP not translate code - National Library of Medicine's ChemID Plus (NLM CIP)

NLM_PUBMED not translate code - National Library of Medicine's PubMed database (NLM PUBMED)

NTP not translate code - National Toxicology Program (NTP)

NZ_CCID not translate code - New Zealand's Chemical Classification and Information Database (CCID)

OECD_EHSP not translate code - Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

OECD_HPVC not translate code - Organization for Economic Co-operation and Development High Production Volume Chemicals Program

OECD_SIDS not translate code - Organization for Economic Co-operation and Development Screening Information Data Set

WHO not translate code - World Health Organization

4 The item numbers of the data sources are given in each paragraph of the SDS as links

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

SAFETY DATA SHEET

BIO-RAD

Revision date 02-Aug-2023

Revision Number 1.1

1. Identification

1.1 Product identifier

1.1.1 Technical Name Mouse HP DAD
1.1.2 Recommended use of the chemical and restrictions on use Recommended use: Laboratory chemicals.
Catalog Number(s) 12002108, 12002109, 12005854

1.2 Detailed information about the manufacturer, supplier, and/or importer

1.2.1 Company Name
1.2.2

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

ООО «Био-Рад Лаборатории»
Нижний Сусальный переулок, дом 5,
строение 5А
105064
Москва
Российская Федерация

1.2.3 Emergency contact information 8-800-700-30-78.
1.2.4 FAX None
1.2.5 E-mail lifesc_support_RCIS@bio-rad.com

2. Hazard(s) identification

2.1 Classification of the substance or mixture

GHS Classification

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

2.2 GHS Label elements, including precautionary statements

2.2.1
2.2.2 Hazard symbols
2.2.3 Hazard statements

PBT and vPvB assessment

No information available.

Chemical name	PBT and vPvB assessment
Sodium chloride	The substance is not PBT / vPvB
Sodium azide	The substance is not PBT / vPvB

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

2.3 Other hazards

Contains animal source material. (Cattle).

3. Composition/information on ingredients

3.1 General product information

3.1.1 Chemical name (according to IUPAC)

3.1.2 Chemical formula

3.1.3 General characteristics of the product
(including brand and product range; production method)

3.2 Mixture

(name, CAS and EC numbers, mass fractions (totaling 100%), MAC (Maximum Available Concentrations) or TSEL (Tentative Safe Exposure Level), hazard classifications and references to the sources of data)

		Occupational exposure limits			
Chemical name	Weight-%	MAC, mg/m ³	Hazard class	CAS No	EC No (EU Index No)
Sodium chloride	0.822	5	3	7647-14-5	231-598-3
Sodium azide	0.095			26628-22-8	(011-004-00-7) 247-852-1

4. First-aid measures

4.1 Symptoms

4.1.1

In case of inhalation poisoning (inhalation)

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

4.1.2

Skin contact

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

4.1.3

Eye contact

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

4.1.4

Ingestion

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

4.2 Description of necessary first aid measures

4.2.1

Inhalation

Remove to fresh air.

4.2.2

Skin contact

In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.

4.2.3

Eye contact

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

4.2.4

Ingestion

Clean mouth with water and drink afterwards plenty

4.2.5	of water.
Contraindications	Treat symptomatically. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

5.1	
General description of fire and explosion hazards (according to GOST 12.1.044-89)	No information available.
5.2	
Indicators of fire and explosion hazards	Flammability group: No information available.
Flash point	Not applicable
Minimum Ignition Temperature (°C)	Not applicable
Autoignition temperature	Not applicable
Lower and upper explosion limit/flammability limit	Concentration limit (%): Not applicable
SADT (self-accelerating decomposition temperature)	Temperature range: Not applicable
Smoke production	Not applicable
Polymer combustion product toxicity index	Not applicable
Maximum Pressure Rise (bar)	Not applicable
Maximum Rate of Pressure Rise (bar/sec)	Not applicable
5.3	
Combustion and/or thermal decomposition products and their hazards	No information available.
5.4	
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.5	
Unsuitable extinguishing media	No information available.
5.6	
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
5.7	
Advice for firefighters	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

6. Accidental release measures

6.1 Measures to prevent harm to people, property and the environment in case of an accident or an emergency

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6.2.1

Actions in case of leaks and spills (including measures for containment and clean-up, and to ensure protection of the environment)

Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information. Clean contaminated objects and areas thoroughly observing environmental regulations.

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Actions in case of fire

Evacuate area and fight fire from a safe distance.

7. Handling and storage

7.1 Precautions for safe handling

7.1.1

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

7.1.2

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Ensure control measures are regularly inspected and maintained. Prevent leaks and prevent soil / water pollution caused by leaks.

7.1.3

Recommendations for safe movement and transportation

See section 14 for more information:

Transport in accordance with the rules for the carriage of goods in force for each mode of transport. Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1

Storage Conditions

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

Incompatible materials

Metals.

7.2.2

Packaging materials

No information available.

7.3

Safety measures for household use and storage

Not intended for household use.

8. Exposure controls/personal protection

8.1

Control parameters

Chemical name	Type	MAC, mg/m ³	Remarks
Sodium chloride	MAC	5	Aerosol

8.2

Appropriate engineering controls

Provide adequate ventilation. When not in use, keep containers tightly closed.

8.3 Personal protective equipment

8.3.1

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

8.3.2

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.

8.3.3

Personal protection equipment

Skin and body protection:

No special protective equipment required.

Hand protection:

No special protective equipment required.

Eye/face protection:

No special protective equipment required.

8.3.4

Personal protective equipment for household use

Not intended for household use.

9. Physical and chemical properties

9.1 Physical state

(aggregate state, color, odor)

Liquid

Appearance: aqueous solution

Color: amber

Odor: Odorless

9.2 Information on basic physical and chemical properties

(transition temperatures, pH, solubility, Log Kow (coefficient of n-Octanol/water) and other parameters specific to the type of product)

Property	Values	Remarks • Method
pH	7.2	
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	> 100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	

Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Solubility(ies)		
Water solubility	No data available	Miscible in water
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Viscosity		
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Other information		
Oxidizing properties	Not applicable	
Explosive properties	Not applicable	
Softening point	Not applicable	

10. Stability and reactivity

10.1

Chemical stability	Stable under normal conditions.
Sensitivity to mechanical impact:	None.
Sensitivity to static discharge:	None.
Hazardous decomposition products:	None under normal use conditions.

10.2

Reactivity	No information available.
Possibility of hazardous reactions:	Avoid contact with metals. This product contains sodium azide. Sodium azide can react with copper, brass, lead, and solder in piping systems to form explosive compounds and toxic gases.

10.3

Conditions to avoid	None known.
Incompatible materials:	Metals.

11. Toxicological information

11.1

General characteristics of exposure (assessment of health hazard (toxicity) and typical symptoms of exposure)	None known.
---	-------------

11.2 Information on the likely routes of exposure

In case of inhalation poisoning (inhalation)	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

11.3 Target organs, tissues and biological systems	No information available.
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11.4

Information on hazard of direct contact with the product, as well as the consequences of such contact (e.g. irritation of upper respiratory tract, eyes or skin; skin-absorption and sensitizing actions)

The information presented below only applies to the material as supplied.

Skin corrosion/irritation:

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

Serious eye damage/eye irritation:

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

Respiratory or skin sensitization:

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

11.5 Information on long-term effects of exposure (e.g. reproductive toxicity, carcinogenicity, mutagenicity, cumulative and other chronic effects)

The information presented below only applies to the material as supplied.

Germ cell mutagenicity:

Based on available data, the classification criteria are not met

Carcinogenicity:

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

Reproductive toxicity:

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

STOT - single exposure:

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

Aspiration hazard:

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

11.6 Acute toxicity data (LD50 with route of exposure and animal species; LC50 with exposure time (h) and animal species)

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

ATEmix (oral)	19,775.80 mg/kg
ATEmix (dermal)	15,789.50 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium chloride	= 3 g/kg (Rat)	> 10000 mg/kg (Rabbit)	> 42 mg/L (Rat) 1 h
Sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit)	0.054 - 0.52 mg/L (Rat) 4 h

12. Ecological information

12.1

General description of the effects on the environment (atmospheric air, water, soil, including symptoms of exposure)

Environment, air: Air emission controls are not applicable as there is no direct release to air.

Environment, water: Negligible wastewater emissions as process operates without water contact.

Environment, soil: Soil emission controls are not applicable as there is no direct release to soil. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level continual releases.

12.2

Possible routes of release to the environment

Violation of the rules on storage and transportation of products. This product could affect the environment if incorrectly stored and transported, the waste is incinerated, it is discharged into bodies of water, or if there is an accident or emergency. Chemical Incidents.

12.3 Most important characteristics of the environmental impact

12.3.1

Hygienic standards (allowable concentrations in atmospheric air, water, including fishery waters, soils)

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Sodium chloride - 7647-14-5	MAC _{atm} : 0.5 0.15 TSEL _{atm} : 0.15 res Hazard class 3	Not established	Not established	Not established

1 - LHI – Limiting Hazard Indicator (tox. – toxicological; s.-t. (san.-tox.) – sanitary-toxicological; org. – organoleptic with indication of the nature of changes regarding organoleptic properties of water; sm. – changes the smell of the water; turb. – increases turbidity; col. – gives color to water; foam – causes

foaming; film – forms a film on the water surface; taste. – gives the taste to water; opa. – causes opalescence); refl. – reflexive; res.. – resorptive; refl.-res. – reflexive-resorptive; fishery – fishery (changes in commercial quality of aquatic organisms); san. –general-sanitary)

2 - Bodies of water used for drinking and household use

3 - Bodies of water with fishery significance (including sea waters)

12.3.2

Ecotoxicity data (LC50, EC50, NOEC for fish, Daphnia magna, algae and other)

Chemical name	Algae/aquatic plants	Fish	Crustacea
Sodium chloride	-	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>)
Sodium azide	-	LC50: =0.8mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.7mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =5.46mg/L (96h, <i>Pimephales promelas</i>)	-

12.3.3

Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis, etc.) Persistence and degradability: No information available. Bioaccumulation: No information available. Mobility in soil: No information available. Mobility: No information available.

13. Disposal considerations

13.1

Safety precautions when handling waste arising from use, storage and transportation Ensure waste is collected and contained.

13.2

Information about the places and methods of decontamination, recycling or disposal of waste, including packaging material

Waste from residues/unused products:

Flush pipes with water frequently if discarding solutions containing sodium azide into metal piping systems. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

13.3

Recommendations regarding disposal of waste generated when products are used in household applications

Not intended for household use.

14. Transport information

14.1 UN Number (according to the UN Recommendations on the Transport of Dangerous Goods)

14.2 Proper shipping name

14.3 Appropriate transportation methods

May be transported by all modes of transport in accordance with the rules of transport for dangerous goods effective for the transport of each type.

14.4 Classification of dangerous goods according to GOST 19433-88

14.5 Classification of dangerous goods according to the UN Recommendations on the Transport of Dangerous Goods

14.6 Transport labeling (symbols according to GOST 14192-96)

14.7 Emergency cards (for transportation by rail, sea and other ways)

IMDG EmS-No:

None

IATA ERG Code:

None

Special precautions for user

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

Marine transport (IMDG) Special Provisions

None

15. Regulatory information

15.1 National regulations

15.1.1 Laws of the Russian Federation

Federal law "On the sanitary-epidemiological welfare of the population"

Federal law "On technical regulation"

Federal law "On production and consumption wastes"

Federal law "On industrial safety of hazardous industrial objects"

Federal law "On Environmental Protection"

Federal law "On the protection of atmospheric air"

Federal law "On Fire Safety"

The Law of the Russian Federation "On

	Standardization"
	"Law on Consumer Protection"
15.1.2 Information about the documents regulating the requirements for protection of people and the environment	None
15.2 International conventions and agreements (e.g. whether the product is regulated by the Montreal Protocol, the Stockholm Convention and others)	
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

16. Other information

16.1 Safety Passport Revision Information (for example, "First issue" or "SP has been reissued due to expiration of the original SP. The prior SP No... ." or "Changes have been made to the following sections... revision date...")

Revision date	02-Aug-2023
Revision Number	1.1
Revision Note	Reformatted and updated existing information

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

This safety data sheet was created pursuant to the requirements of: The Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Technical Regulation "On Safety of Chemical Products", GOST 30333, GOST 31340, GOST 19433, GOST 14192, GOST 32419, GOST 32421, GOST 32423, GOST 32424, GOST 32425, R 50.1.102, R 50.1.101.

Hazardous Substance Database:

- Agency for Toxic Substances and Disease Registry (ATSDR) - Agency for Toxic Substances and Disease Registry (ATSDR)
- CHEMVIEW not translate code - U.S. Environmental Protection Agency ChemView Database
- EFSA not translate code - European Food Safety Authority (EFSA)
- EPA not translate code - EPA (Environmental Protection Agency)
- EPA_AEGL not translate code - Acute Exposure Guideline Level(s) (AEGL(s))
- EPA_FIFRA not translate code - U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
- EPA_HPVS not translate code - U.S. Environmental Protection Agency High Production Volume Chemicals
- FOOD_JOURN not translate code - Food Research Journal
- HSDB not translate code - Hazardous Substance Database
- IUCLID not translate code - International Uniform Chemical Information Database (IUCLID)
- JAPAN_GHS not translate code - Japan GHS Classification
- NICNAS not translate code - Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
- NIOSH not translate code - NIOSH (National Institute for Occupational Safety and Health)
- NLM_CIP not translate code - National Library of Medicine's ChemID Plus (NLM CIP)

NLM_PUBMED not translate code - National Library of Medicine's PubMed database (NLM PUBMED)

NTP not translate code - National Toxicology Program (NTP)

NZ_CCID not translate code - New Zealand's Chemical Classification and Information Database (CCID)

OECD_EHSP not translate code - Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

OECD_HPVP not translate code - Organization for Economic Co-operation and Development High Production Volume Chemicals Program

OECD_SIDS not translate code - Organization for Economic Co-operation and Development Screening Information Data Set

WHO not translate code - World Health Organization

4 The item numbers of the data sources are given in each paragraph of the SDS as links

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

SAFETY DATA SHEET

BIO-RAD

Revision date 23-Aug-2023

Revision Number 1.1

1. Identification

1.1 Product identifier

1.1.1 Technical Name Bio-Plex Pro Mouse Diabetes Standard
1.1.2 Recommended use of the chemical and restrictions on use Recommended use: Laboratory chemicals.
Catalog Number(s) 171170001, 10014625

1.2 Detailed information about the manufacturer, supplier, and/or importer

1.2.1 Company Name
1.2.2

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

ООО «Био-Рад Лаборатории»
Нижний Сусальный переулок, дом 5,
строение 5А
105064
Москва
Российская Федерация

1.2.3 Emergency contact information 8-800-700-30-78.
1.2.4 FAX None
1.2.5 E-mail lifesc_support_RCIS@bio-rad.com

2. Hazard(s) identification

2.1 Classification of the substance or mixture

GHS Classification

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

2.2 GHS Label elements, including precautionary statements

2.2.1
2.2.2 Hazard symbols
2.2.3 Hazard statements

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Trade secret	The substance is not PBT / vPvB
Sodium phosphate dibasic	PBT assessment does not apply
Sodium hydroxide	The substance is not PBT / vPvB
Hydrochloric acid	The substance is not PBT / vPvB

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

2.3 Other hazards

Contains animal source material. (Cattle).

3. Composition/information on ingredients**3.1 General product information**

3.1.1 Chemical name (according to IUPAC)

3.1.2 Chemical formula

3.1.3 General characteristics of the product
(including brand and product range; production method)

3.2 Mixture

(name, CAS and EC numbers, mass fractions (totaling 100%), MAC (Maximum Available Concentrations) or TSEL (Tentative Safe Exposure Level), hazard classifications and references to the sources of data)

		Occupational exposure limits			
Chemical name	Weight-%	MAC, mg/m ³	Hazard class	CAS No	EC No (EU Index No)
Trade secret	0 - 10%	5	3		Listed
Sodium phosphate dibasic	2	10	4	7558-79-4	231-448-7
Sodium hydroxide	0.1			1310-73-2	(011-002-00-6) 215-185-5
Hydrochloric acid	0.1	5	2, O	7647-01-0	(017-002-00-2) 231-595-7

4. First-aid measures**4.1 Symptoms**

4.1.1

In case of inhalation poisoning (inhalation)

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

4.1.2

Skin contact

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

4.1.3

Eye contact

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

4.1.4

Ingestion

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

4.2 Description of necessary first aid measures

4.2.1

Inhalation

Remove to fresh air.

4.2.2

Skin contact

In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.

4.2.3

Eye contact

Rinse thoroughly with plenty of water for at least 15

4.2.4	minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
4.2.5	
Contraindications	Treat symptomatically. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

5.1	
General description of fire and explosion hazards (according to GOST 12.1.044-89)	No information available.
5.2	
Indicators of fire and explosion hazards	Flammability group: No information available.
Flash point	Not applicable
Minimum Ignition Temperature (°C)	Not applicable
Autoignition temperature	Not applicable
Lower and upper explosion limit/flammability limit	Concentration limit (%): Not applicable
SADT (self-accelerating decomposition temperature)	Temperature range: Not applicable
Smoke production	Not applicable
Polymer combustion product toxicity index	Not applicable
Maximum Pressure Rise (bar)	Not applicable
Maximum Rate of Pressure Rise (bar/sec)	Not applicable
5.3	
Combustion and/or thermal decomposition products and their hazards	No information available.
5.4	
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.5	
Unsuitable extinguishing media	No information available.
5.6	
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
5.7	
Advice for firefighters	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

6. Accidental release measures

6.1 Measures to prevent harm to people, property and the environment in case of an accident or an emergency

6.1.1

Personal precautions, protective equipment and emergency procedures

See section 8 for more information.

6.1.2

Personal Protective Equipment for emergency situations (PPE for first responders)

Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

6.2 Procedures for dealing with accidents and emergencies

6.2.1

Actions in case of leaks and spills (including measures for containment and clean-up, and to ensure protection of the environment)

Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information. Clean contaminated objects and areas thoroughly observing environmental regulations.

6.2.2

Actions in case of fire

Evacuate area and fight fire from a safe distance.

7. Handling and storage

7.1 Precautions for safe handling

7.1.1

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

7.1.2

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Ensure control measures are regularly inspected and maintained. Prevent leaks and prevent soil / water pollution caused by leaks.

7.1.3

Recommendations for safe movement and transportation

See section 14 for more information:

Transport in accordance with the rules for the carriage of goods in force for each mode of transport. Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1

Storage Conditions

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

7.2.2

Packaging materials No information available.

7.3

Safety measures for household use and storage Not intended for household use.

8. Exposure controls/personal protection

8.1

Control parameters

Chemical name	Type	MAC, mg/m ³	Remarks
Trade secret	MAC	5	Aerosol
Sodium phosphate dibasic	MAC	10	Aerosol
Hydrochloric acid	MAC	5	Vapor, Substances requiring automatic control over their content in the air

8.2

Appropriate engineering controls

Provide adequate ventilation. When not in use, keep containers tightly closed.

8.3 Personal protective equipment

8.3.1

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

8.3.2

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.

8.3.3

Personal protection equipment

Skin and body protection:

No special protective equipment required.

Hand protection:

No special protective equipment required.

Eye/face protection:

No special protective equipment required.

8.3.4

Personal protective equipment for household use

Not intended for household use.

9. Physical and chemical properties

9.1 Physical state

(aggregate state, color, odor)

Solid

Appearance: solid

Color: white

Odor: Odorless

9.2 Information on basic physical and chemical properties

(transition temperatures, pH, solubility, Log Kow (coefficient of n-Octanol/water) and other parameters specific to the type of product)

Property
pH

Values

Remarks • Method

None known

Melting point / freezing point

No data available

None known

Initial boiling point and boiling range

1461 °C

Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Solubility(ies)		
Water solubility	No data available	Soluble in water
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Viscosity		
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Other information		
Oxidizing properties	Not applicable	
Explosive properties	Not applicable	
Softening point	Not applicable	

10. Stability and reactivity

10.1

Chemical stability	Stable under normal conditions.
Sensitivity to mechanical impact:	None.
Sensitivity to static discharge:	None.
Hazardous decomposition products:	None under normal use conditions.

10.2

Reactivity	No information available.
Possibility of hazardous reactions:	None under normal processing.

10.3

Conditions to avoid	None known.
Incompatible materials:	None known.

11. Toxicological information

11.1

General characteristics of exposure (assessment of health hazard (toxicity) and typical symptoms of exposure)	None known.
---	-------------

11.2 Information on the likely routes of exposure

In case of inhalation poisoning (inhalation)	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

available.

11.3 Target organs, tissues and biological systems No information available.

11.4

Information on hazard of direct contact with the product, as well as the consequences of such contact (e.g. irritation of upper respiratory tract, eyes or skin; skin-absorption and sensitizing actions) The information presented below only applies to the material as supplied.

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

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

Respiratory or skin sensitization: Based on available data, the classification criteria are not met.

11.5 Information on long-term effects of exposure (e.g. reproductive toxicity, carcinogenicity, mutagenicity, cumulative and other chronic effects) The information presented below only applies to the material as supplied.

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

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

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

Chemical name	IARC	European Union
Hydrochloric acid 7647-01-0	Group 3	-

Legend

IARC (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

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

STOT - single exposure: Based on available data, the classification criteria are not met.

Aspiration hazard:

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

11.6 Acute toxicity data (LD50 with route of exposure and animal species; LC50 with exposure time (h) and animal species)

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

ATEmix (oral) 33,333.30 mg/kg

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
Sodium phosphate dibasic	= 17 g/kg (Rat)	-	-
Sodium hydroxide	= 325 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	-
Hydrochloric acid	238 - 277 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 1.68 mg/L (Rat) 1 h

12. Ecological information

12.1

General description of the effects on the environment (atmospheric air, water, soil, including symptoms of exposure)

Environment, air: Air emission controls are not applicable as there is no direct release to air.
Environment, water: Negligible wastewater emissions as process operates without water contact.
Environment, soil: Soil emission controls are not applicable as there is no direct release to soil. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level continual releases.

12.2

Possible routes of release to the environment

Violation of the rules on storage and transportation of products. This product could affect the environment if incorrectly stored and transported, the waste is incinerated, it is discharged into bodies of water, or if there is an accident or emergency. Chemical Incidents.

12.3 Most important characteristics of the environmental impact

12.3.1

Hygienic standards (allowable concentrations in atmospheric air, water, including fishery waters, soils)

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
---------------	---	--	--	---------------------------------

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Trade secret -	MAC _{atm} : 0.5 0.15 TSEL _{atm} : 0.15 res Hazard class 3	Not established	Not established	Not established
Sodium phosphate dibasic - 7558-79-4	TSEL _{atm} : 0.1	Not established	Not established	Not established
Sodium hydroxide - 1310-73-2	TSEL _{atm} : 0.01	Not established	Hazard class 4	Not established
Hydrochloric acid - 7647-01-0	MAC _{atm} : 0.2 0.1 refl. - res Hazard class 2	Not established	Not established	Not established

1 - LHI – Limiting Hazard Indicator (tox. – toxicological; s.-t. (san.-tox.) – sanitary-toxicological; org. – organoleptic with indication of the nature of changes regarding organoleptic properties of water; sm. – changes the smell of the water; turb. – increases turbidity; col. – gives color to water; foam – causes foaming; film – forms a film on the water surface; taste. – gives the taste to water; opa. – causes opalescence); refl. – reflexive; res.. – resorptive; refl.-res. – reflexive-resorptive; fishery – fishery (changes in commercial quality of aquatic organisms); san. – general-sanitary)

2 - Bodies of water used for drinking and household use

3 - Bodies of water with fishery significance (including sea waters)

12.3.2

Ecotoxicity data (LC50, EC50, NOEC for fish, Daphnia magna, algae and other)

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>)
Sodium hydroxide	-	LC50: =45.4mg/L (96h, <i>Oncorhynchus mykiss</i>)	-

12.3.3

Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis, etc.)

Persistence and degradability: No information available. Bioaccumulation: There is no data for this product. Mobility in soil: No information available. Mobility: No information available.

13. Disposal considerations

13.1

Safety precautions when handling waste arising from use, storage and transportation Ensure waste is collected and contained.

13.2

Information about the places and methods of decontamination, recycling or disposal of waste, including packaging material

Waste from residues/unused products:

Dispose of in accordance with local regulations.

Dispose of waste in accordance with environmental legislation.

13.3

Recommendations regarding disposal of waste generated when products are used in household applications

Not intended for household use.

14. Transport information

14.1 UN Number (according to the UN Recommendations on the Transport of Dangerous Goods)

14.2 Proper shipping name

14.3 Appropriate transportation methods

May be transported by all modes of transport in accordance with the rules of transport for dangerous goods effective for the transport of each type.

14.4 Classification of dangerous goods according to GOST 19433-88

14.5 Classification of dangerous goods according to the UN Recommendations on the Transport of Dangerous Goods

14.6 Transport labeling (symbols according to GOST 14192-96)

14.7 Emergency cards (for transportation by rail, sea and other ways)

IMDG EmS-No:

None

IATA ERG Code:

None

Special precautions for user

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

Marine transport (IMDG) Special Provisions	special provisions None
--	----------------------------

15. Regulatory information

15.1 National regulations

15.1.1 Laws of the Russian Federation	Federal law "On the sanitary-epidemiological welfare of the population" Federal law "On technical regulation" Federal law "On production and consumption wastes" Federal law "On industrial safety of hazardous industrial objects" Federal law "On Environmental Protection" Federal law "On the protection of atmospheric air" Federal law "On Fire Safety" The Law of the Russian Federation "On Standardization" "Law on Consumer Protection"
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15.1.2 Information about the documents regulating the requirements for protection of people and the environment	None
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15.2 International conventions and agreements (e.g. whether the product is regulated by the Montreal Protocol, the Stockholm Convention and others)
The Montreal Protocol on Substances that Deplete the Ozone Layer: Not applicable

The Stockholm Convention on Persistent Organic Pollutants	Not applicable
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The Rotterdam Convention	Not applicable
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16. Other information

16.1 Safety Passport Revision Information (for example, "First issue" or "SP has been reissued due to expiration of the original SP. The prior SP No... ." or "Changes have been made to the following sections... revision date...")

Revision date	23-Aug-2023
Revision Number	1.1
Revision Note	Reformatted and updated existing information

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

This safety data sheet was created pursuant to the requirements of: The Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Technical Regulation "On Safety of Chemical Products", GOST 30333, GOST 31340, GOST 19433, GOST 14192, GOST 32419, GOST 32421, GOST 32423, GOST 32424, GOST 32425, R 50.1.102, R 50.1.101.

Hazardous Substance Database:

Agency for Toxic Substances and Disease Registry (ATSDR) - Agency for Toxic Substances and Disease Registry (ATSDR)
CHEMVIEW not translate code - U.S. Environmental Protection Agency ChemView Database

EFSA not translate code - European Food Safety Authority (EFSA)
EPA not translate code - EPA (Environmental Protection Agency)
EPA_AEGL not translate code - Acute Exposure Guideline Level(s) (AEGL(s))
EPA_FIFRA not translate code - U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
EPA_HPVP not translate code - U.S. Environmental Protection Agency High Production Volume Chemicals
FOOD_JOURN not translate code - Food Research Journal
HSDB not translate code - Hazardous Substance Database
IUCLID not translate code - International Uniform Chemical Information Database (IUCLID)
JAPAN_GHS not translate code - Japan GHS Classification
NICNAS not translate code - Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH not translate code - NIOSH (National Institute for Occupational Safety and Health)
NLM_CIP not translate code - National Library of Medicine's ChemID Plus (NLM CIP)
NLM_PUBMED not translate code - National Library of Medicine's PubMed database (NLM PUBMED)
NTP not translate code - National Toxicology Program (NTP)
NZ_CCID not translate code - New Zealand's Chemical Classification and Information Database (CCID)
OECD_EHSP not translate code - Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
OECD_HPVP not translate code - Organization for Economic Co-operation and Development High Production Volume Chemicals Program
OECD_SIDS not translate code - Organization for Economic Co-operation and Development Screening Information Data Set
WHO not translate code - World Health Organization

4 The item numbers of the data sources are given in each paragraph of the SDS as links

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

SAFETY DATA SHEET

BIO-RAD

Revision date 07-Feb-2024

Revision Number 2

1. Identification

1.1 Product identifier

1.1.1 Technical Name Bio-Plex Pro Assays 10X Wash Buffer
1.1.2 Recommended use of the chemical and restrictions on use Recommended use: Laboratory chemicals.
Catalog Number(s) 171304040, 10027955, 12006121, 12005850

1.2 Detailed information about the manufacturer, supplier, and/or importer

1.2.1 Company Name
1.2.2

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

ООО «Био-Рад Лаборатории»
Нижний Сусальный переулок, дом 5,
строение 5А
105064
Москва
Российская Федерация

1.2.3 Emergency contact information 8-800-700-30-78.
1.2.4 FAX None
1.2.5 E-mail lifesc_support_RCIS@bio-rad.com

2. Hazard(s) identification

2.1 Classification of the substance or mixture

GHS Classification

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

2.2 GHS Label elements, including precautionary statements

2.2.1
2.2.2 Hazard symbols
2.2.3 Hazard statements

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Trade secret	The substance is not PBT / vPvB
Trade secret	PBT assessment does not apply
Trade secret	The substance is not PBT / vPvB

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

2.3 Other hazards

Not applicable.

3. Composition/information on ingredients**3.1 General product information**

3.1.1 Chemical name (according to IUPAC)

3.1.2 Chemical formula

3.1.3 General characteristics of the product
(including brand and product range; production method)**3.2 Mixture**

(name, CAS and EC numbers, mass fractions (totaling 100%), MAC (Maximum Available Concentrations) or TSEL (Tentative Safe Exposure Level), hazard classifications and references to the sources of data)

		Occupational exposure limits			
Chemical name	Weight-%	MAC, mg/m ³	Hazard class	CAS No	EC No (EU Index No)
Trade secret	0 - 10%	5	3		Listed
Trade secret	0 - 10%	10	4		Listed
Trade secret	0 - 10%				Listed

4. First-aid measures**4.1 Symptoms**

4.1.1

In case of inhalation poisoning (inhalation)

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

4.1.2

Skin contact

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

4.1.3

Eye contact

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

4.1.4

Ingestion

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

4.2 Description of necessary first aid measures

4.2.1

Inhalation

Remove to fresh air.

4.2.2

Skin contact

In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.

4.2.3

Eye contact

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

4.2.4

Ingestion	Clean mouth with water and drink afterwards plenty of water.
4.2.5 Contraindications	Treat symptomatically. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

5.1 General description of fire and explosion hazards (according to GOST 12.1.044-89)	No information available.
5.2 Indicators of fire and explosion hazards	Flammability group: No information available.
Flash point	Not applicable
Minimum Ignition Temperature (°C)	Not applicable
Autoignition temperature	Not applicable
Lower and upper explosion limit/flammability limit	Concentration limit (%): Not applicable
SADT (self-accelerating decomposition temperature)	Temperature range: Not applicable
Smoke production	Not applicable
Polymer combustion product toxicity index	Not applicable
Maximum Pressure Rise (bar)	Not applicable
Maximum Rate of Pressure Rise (bar/sec)	Not applicable
5.3 Combustion and/or thermal decomposition products and their hazards	No information available.
5.4 Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.5 Unsuitable extinguishing media	No information available.
5.6 Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
5.7 Advice for firefighters	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

6. Accidental release measures

6.1 Measures to prevent harm to people, property and the environment in case of an accident or an emergency

6.1.1

Personal precautions, protective equipment and emergency procedures

See section 8 for more information.

6.1.2

Personal Protective Equipment for emergency situations (PPE for first responders)

Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

6.2 Procedures for dealing with accidents and emergencies

6.2.1

Actions in case of leaks and spills (including measures for containment and clean-up, and to ensure protection of the environment)

Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information. Clean contaminated objects and areas thoroughly observing environmental regulations.

6.2.2

Actions in case of fire

Evacuate area and fight fire from a safe distance.

7. Handling and storage**7.1 Precautions for safe handling**

7.1.1

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

7.1.2

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Ensure control measures are regularly inspected and maintained. Prevent leaks and prevent soil / water pollution caused by leaks.

7.1.3

Recommendations for safe movement and transportation

See section 14 for more information:

Transport in accordance with the rules for the carriage of goods in force for each mode of transport. Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1

Storage Conditions

Incompatible materials

Store according to product and label instructions. Metals. Metals.

7.2.2

Packaging materials

No information available.

7.3

Safety measures for household use and storage

Not intended for household use.

8. Exposure controls/personal protection

8.1

Control parameters

Chemical name	Type	MAC, mg/m ³	Remarks
Trade secret	MAC	5	Aerosol
Trade secret	MAC	10	Aerosol

8.2

Appropriate engineering controls

Provide adequate ventilation. When not in use, keep containers tightly closed.

8.3 Personal protective equipment

8.3.1

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

8.3.2

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.

8.3.3

Personal protection equipment

Skin and body protection:

No special protective equipment required.

Hand protection:

No special protective equipment required.

Eye/face protection:

No special protective equipment required.

8.3.4

Personal protective equipment for household use

Not intended for household use.

9. Physical and chemical properties

9.1 Physical state

(aggregate state, color, odor)

Liquid

Appearance: aqueous solution

Color: colorless

Odor: Odorless

9.2 Information on basic physical and chemical properties

(transition temperatures, pH, solubility, Log Kow (coefficient of n-Octanol/water) and other parameters specific to the type of product)

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.4	
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive	No data available	

limits		
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Solubility(ies)		
Water solubility	No data available	Miscible in water
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Viscosity		
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
<u>Other information</u>		
Oxidizing properties	Not applicable	
Explosive properties	Not applicable	
Softening point	Not applicable	

10. Stability and reactivity

10.1

Chemical stability	Stable under normal conditions.
Sensitivity to mechanical impact:	None.
Sensitivity to static discharge:	None.
Hazardous decomposition products:	None under normal use conditions.

10.2

Reactivity	No information available.
Possibility of hazardous reactions:	Avoid contact with metals. This product contains sodium azide. Sodium azide can react with copper, brass, lead, and solder in piping systems to form explosive compounds and toxic gases. Avoid contact with metals. This product contains sodium azide. Sodium azide can react with copper, brass, lead, and solder in piping systems to form explosive compounds and toxic gases.

10.3

Conditions to avoid	None known.
Incompatible materials:	Metals. Metals.

11. Toxicological information

11.1

General characteristics of exposure (assessment of health hazard (toxicity) and typical symptoms of exposure)	None known.
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11.2 Information on the likely routes of exposure

In case of inhalation poisoning (inhalation)	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not

Ingestion	available. Specific test data for the substance or mixture is not available.
11.3 Target organs, tissues and biological systems	No information available.
11.4 Information on hazard of direct contact with the product, as well as the consequences of such contact (e.g. irritation of upper respiratory tract, eyes or skin; skin-absorption and sensitizing actions)	The information presented below only applies to the material as supplied.
Skin corrosion/irritation:	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation:	Based on available data, the classification criteria are not met.
Respiratory or skin sensitization:	Based on available data, the classification criteria are not met.
11.5 Information on long-term effects of exposure (e.g. reproductive toxicity, carcinogenicity, mutagenicity, cumulative and other chronic effects)	The information presented below only applies to the material as supplied.
Germ cell mutagenicity:	Based on available data, the classification criteria are not met
Carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
STOT - single exposure:	Based on available data, the classification criteria are not met.
Aspiration hazard:	Based on available data, the classification criteria are not met.

11.6 Acute toxicity data (LD50 with route of exposure and animal species; LC50 with exposure time (h) and animal species)

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

ATEmix (oral) 15,523.50 mg/kg

ATEmix (dermal) 21,052.60 mg/kg

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
Trade secret	= 8290 mg/kg (Rat)	> 7940 mg/kg (Rabbit)	> 0.83 mg/L (Rat) 4 h
Trade secret	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit)	0.054 - 0.52 mg/L (Rat) 4 h

12. Ecological information

12.1

General description of the effects on the environment (atmospheric air, water, soil, including symptoms of exposure)

Environment, air: Air emission controls are not applicable as there is no direct release to air.

Environment, water: Negligible wastewater emissions as process operates without water contact.

Environment, soil: Soil emission controls are not applicable as there is no direct release to soil. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level continual releases.

12.2

Possible routes of release to the environment

Violation of the rules on storage and transportation of products. This product could affect the environment if incorrectly stored and transported, the waste is incinerated, it is discharged into bodies of water, or if there is an accident or emergency. Chemical Incidents.

12.3 Most important characteristics of the environmental impact

12.3.1

Hygienic standards (allowable concentrations in atmospheric air, water, including fishery waters, soils)

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Trade secret -	MACatm: 0.5 0.15 TSELatm: 0.15	Not established	Not established	Not established

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
	res Hazard class 3			
Trade secret -	Not established	AALwater: 3.5 san Hazard class 3	MACfish: 0.05 0.15 0.2	Not established

1 - LHI – Limiting Hazard Indicator (tox. – toxicological; s.-t. (san.-tox.) – sanitary-toxicological; org. – organoleptic with indication of the nature of changes regarding organoleptic properties of water; sm. – changes the smell of the water; turb. – increases turbidity; col. – gives color to water; foam – causes foaming; film – forms a film on the water surface; taste. – gives the taste to water; opa. – causes opalescence); refl. – reflexive; res.. – resorptive; refl.-res. – reflexive-resorptive; fishery – fishery (changes in commercial quality of aquatic organisms); san. –general-sanitary)

2 - Bodies of water used for drinking and household use

3 - Bodies of water with fishery significance (including sea waters)

12.3.2

Ecotoxicity data (LC50, EC50, NOEC for fish, *Daphnia magna*, algae and other)

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>)
Trade secret	-	LC50: =0.8mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.7mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =5.46mg/L (96h, <i>Pimephales promelas</i>)	-

12.3.3

Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis, etc.)

Persistence and degradability: No information available. Bioaccumulation: No information available. Mobility in soil: No information available. Mobility: No information available.

13. Disposal considerations

13.1

Safety precautions when handling waste arising from use, storage and transportation

Ensure waste is collected and contained.

13.2

Information about the places and methods of decontamination, recycling or disposal of waste, including packaging material

Waste from residues/unused products:

Flush pipes with water frequently if discarding solutions containing sodium azide into metal piping systems. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Flush pipes with water frequently if discarding solutions containing sodium azide into metal piping systems.

13.3

Recommendations regarding disposal of waste generated when products are used in household applications

Not intended for household use.

14. Transport information

14.1 UN Number (according to the UN Recommendations on the Transport of Dangerous Goods)

14.2 Proper shipping name

14.3 Appropriate transportation methods

May be transported by all modes of transport in accordance with the rules of transport for dangerous goods effective for the transport of each type.

14.4 Classification of dangerous goods according to GOST 19433-88

14.5 Classification of dangerous goods according to the UN Recommendations on the Transport of Dangerous Goods

14.6 Transport labeling (symbols according to GOST 14192-96)

14.7 Emergency cards (for transportation by rail, sea and other ways)

IMDG EmS-No:

None

IATA ERG Code:

None

Special precautions for user

Special provisions from the regulations relative to the

Marine transport (IMDG) Special Provisions	specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions None
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15. Regulatory information

15.1 National regulations

15.1.1 Laws of the Russian Federation	Federal law "On the sanitary-epidemiological welfare of the population" Federal law "On technical regulation" Federal law "On production and consumption wastes" Federal law "On industrial safety of hazardous industrial objects" Federal law "On Environmental Protection" Federal law "On the protection of atmospheric air" Federal law "On Fire Safety" The Law of the Russian Federation "On Standardization" "Law on Consumer Protection"
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15.1.2 Information about the documents regulating the requirements for protection of people and the environment	None
---	------

15.2 International conventions and agreements (e.g. whether the product is regulated by the Montreal Protocol, the Stockholm Convention and others)
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

16. Other information

16.1 Safety Passport Revision Information (for example, "First issue" or "SP has been reissued due to expiration of the original SP. The prior SP No... ." or "Changes have been made to the following sections... revision date...")

Revision date	07-Feb-2024
Revision Number	2
Revision Note	SDS sections updated 2 12

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

This safety data sheet was created pursuant to the requirements of: The Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Technical Regulation "On Safety of Chemical Products", GOST 30333, GOST 31340, GOST 19433, GOST 14192, GOST 32419, GOST 32421, GOST 32423, GOST 32424, GOST 32425, R 50.1.102, R 50.1.101.

Hazardous Substance Database:

Agency for Toxic Substances and Disease Registry (ATSDR) - Agency for Toxic Substances and

Disease Registry (ATSDR)

CHEMVIEW not translate code - U.S. Environmental Protection Agency ChemView Database

EFSA not translate code - European Food Safety Authority (EFSA)

EPA not translate code - EPA (Environmental Protection Agency)

EPA_AEGL not translate code - Acute Exposure Guideline Level(s) (AEGL(s))

EPA_FIFRA not translate code - U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

EPA_HPV not translate code - U.S. Environmental Protection Agency High Production Volume Chemicals

FOOD_JOURN not translate code - Food Research Journal

HSDB not translate code - Hazardous Substance Database

IUCLID not translate code - International Uniform Chemical Information Database (IUCLID)

JAPAN_GHS not translate code - Japan GHS Classification

NICNAS not translate code - Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH not translate code - NIOSH (National Institute for Occupational Safety and Health)

NLM_CIP not translate code - National Library of Medicine's ChemID Plus (NLM CIP)

NLM_PUBMED not translate code - National Library of Medicine's PubMed database (NLM PUBMED)

NTP not translate code - National Toxicology Program (NTP)

NZ_CCID not translate code - New Zealand's Chemical Classification and Information Database (CCID)

OECD_EHSP not translate code - Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

OECD_HPV not translate code - Organization for Economic Co-operation and Development High Production Volume Chemicals Program

OECD_SIDS not translate code - Organization for Economic Co-operation and Development Screening Information Data Set

WHO not translate code - World Health Organization

4 The item numbers of the data sources are given in each paragraph of the SDS as links

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SAFETY DATA SHEET

BIO-RAD

Revision date 23-Aug-2023

Revision Number 1

1. Identification

1.1 Product identifier

1.1.1 Technical Name Bio-Plex Pro Mouse Diabetes Single-Plex Beads
1.1.2 Recommended use of the chemical and restrictions on use Recommended use: Laboratory chemicals.
Catalog Number(s) 10018484, 10018485, 10018486, 10018487, 10018488, 10018489, 10018490, 10018515

1.2 Detailed information about the manufacturer, supplier, and/or importer

1.2.1 Company Name
1.2.2

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

ООО «Био-Рад Лаборатории»
Нижний Сусальный переулок, дом 5,
строение 5А
105064
Москва
Российская Федерация

1.2.3 Emergency contact information 8-800-700-30-78.
1.2.4 FAX None
1.2.5 E-mail lifesc_support_RCIS@bio-rad.com

2. Hazard(s) identification

2.1 Classification of the substance or mixture

GHS Classification

Skin sensitization	Category 1A
Acute aquatic toxicity	Category 3
Chronic aquatic toxicity	Category 3

2.2 GHS Label elements, including precautionary statements

2.2.1 Signal word
2.2.2 Hazard symbols

Warning



2.2.3 Hazard statements

H317 - May cause an allergic skin reaction
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear eye protection/ face protection.

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Trade secret	The substance is not PBT / vPvB
Trade secret	The substance is not PBT / vPvB
Trade secret	The substance is not PBT / vPvB
Trade secret	The substance is not PBT / vPvB

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

2.3 Other hazards

Contains animal source material. (Cattle).

3. Composition/information on ingredients**3.1 General product information**

3.1.1 Chemical name (according to IUPAC)

3.1.2 Chemical formula

3.1.3 General characteristics of the product
(including brand and product range; production method)**3.2 Mixture**

(name, CAS and EC numbers, mass fractions (totaling 100%), MAC (Maximum Available Concentrations) or TSEL (Tentative Safe Exposure Level), hazard classifications and references to the sources of data)

		Occupational exposure limits			
Chemical name	Weight-%	MAC, mg/m ³	Hazard class	CAS No	EC No (EU Index No)
Water	70			7732-18-5	231-791-2
Trade secret	10 - 20%				Listed
Trade secret	0 - 10%	5	3		Listed
Trade secret	0 - 10%	10	4		Listed
Trade secret	0 - 10%				Listed
Trade secret	0 - 10%				Listed
Trade secret	0 - 10%				Listed
Trade secret	0 - 10%				Listed

4. First-aid measures**4.1 Symptoms**

4.1.1

In case of inhalation poisoning (inhalation)

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

4.1.2

Skin contact

May cause sensitization by skin contact. Specific test data for the substance or mixture is not available.
Repeated or prolonged skin contact may cause

	allergic reactions with susceptible persons (based on components).
4.1.3 Eye contact	Specific test data for the substance or mixture is not available.
4.1.4 Ingestion	Specific test data for the substance or mixture is not available.
4.2 Description of necessary first aid measures	
4.2.1 Inhalation	Remove to fresh air.
4.2.2 Skin contact	Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
4.2.3 Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
4.2.4 Ingestion	Clean mouth with water and drink afterwards plenty of water.
4.2.5 Contraindications	May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

5.1 General description of fire and explosion hazards (according to GOST 12.1.044-89)	Product is or contains a sensitizer. May cause sensitization by skin contact.
5.2 Indicators of fire and explosion hazards	Flammability group: No information available.
Flash point	Not applicable
Minimum Ignition Temperature (°C)	Not applicable
Autoignition temperature	Not applicable
Lower and upper explosion limit/flammability limit	Concentration limit (%): Not applicable
SADT (self-accelerating decomposition temperature)	Temperature range: Not applicable
Smoke production	Not applicable
Polymer combustion product toxicity index	Not applicable
Maximum Pressure Rise (bar)	Not applicable
Maximum Rate of Pressure Rise (bar/sec)	Not applicable
5.3 Combustion and/or thermal decomposition products and their hazards	No information available.
5.4	

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.5	
Unsuitable extinguishing media	No information available.
5.6	
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
5.7	
Advice for firefighters	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

6. Accidental release measures

6.1 Measures to prevent harm to people, property and the environment in case of an accident or an emergency

6.1.1

Personal precautions, protective equipment and emergency procedures

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

6.1.2

Personal Protective Equipment for emergency situations (PPE for first responders)

Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

6.2 Procedures for dealing with accidents and emergencies

6.2.1

Actions in case of leaks and spills (including measures for containment and clean-up, and to ensure protection of the environment)

Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information. Clean contaminated objects and areas thoroughly observing environmental regulations.

6.2.2

Actions in case of fire

Evacuate area and fight fire from a safe distance.

7. Handling and storage

7.1 Precautions for safe handling

7.1.1

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory

7.1.2

Environmental exposure controls

equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Local authorities should be advised if significant spillages cannot be contained. Ensure control measures are regularly inspected and maintained. Prevent leaks and prevent soil / water pollution caused by leaks.

7.1.3

Recommendations for safe movement and transportation

See section 14 for more information:

Transport in accordance with the rules for the carriage of goods in force for each mode of transport. Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

7.2.2

Packaging materials

No information available.

7.3

Safety measures for household use and storage

Not intended for household use.

8. Exposure controls/personal protection

8.1

Control parameters

Chemical name	Type	MAC, mg/m ³	Remarks
Trade secret	MAC	5	Aerosol
Trade secret	MAC	10	Aerosol

8.2

Appropriate engineering controls

Provide adequate ventilation. When not in use, keep containers tightly closed.

8.3 Personal protective equipment

8.3.1

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

8.3.2

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.

8.3.3

Personal protection equipment

Skin and body protection:

Wear suitable protective clothing.

Hand protection:

Wear suitable gloves.

Eye/face protection:

Wear safety glasses with side shields (or goggles).

8.3.4

Personal protective equipment for household use

Not intended for household use.

9. Physical and chemical properties

9.1 Physical state

(aggregate state, color, odor)

Liquid

Appearance: Dilute bead suspension in aqueous solution

Color: Opaque

Odor: Odorless

9.2 Information on basic physical and chemical properties

(transition temperatures, pH, solubility, Log Kow (coefficient of n-Octanol/water) and other parameters specific to the type of product)

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.4	
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Solubility(ies)		
Water solubility	No data available	Partially miscible
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Viscosity		
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Other information		
Oxidizing properties	Not applicable	
Explosive properties	Not applicable	
Softening point	Not applicable	

10. Stability and reactivity

10.1

Chemical stability

Stable under normal conditions.

Sensitivity to mechanical impact:

None.

Sensitivity to static discharge:

None.

Hazardous decomposition products:

None under normal use conditions.

10.2	
Reactivity	No information available.
Possibility of hazardous reactions:	None under normal processing.
10.3	
Conditions to avoid	None known.
Incompatible materials:	None known.

11. Toxicological information

11.1	
General characteristics of exposure (assessment of health hazard (toxicity) and typical symptoms of exposure)	Itching. Rashes. Hives.
11.2 Information on the likely routes of exposure	
In case of inhalation poisoning (inhalation)	Specific test data for the substance or mixture is not available.
Skin contact	May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons (based on components).
Eye contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
11.3 Target organs, tissues and biological systems	No information available.
11.4	
Information on hazard of direct contact with the product, as well as the consequences of such contact (e.g. irritation of upper respiratory tract, eyes or skin; skin-absorption and sensitizing actions)	The information presented below only applies to the material as supplied.
Skin corrosion/irritation:	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation:	Based on available data, the classification criteria are not met.
Respiratory or skin sensitization:	May cause sensitization by skin contact.
11.5 Information on long-term effects of exposure (e.g. reproductive toxicity, carcinogenicity,	The information presented below only applies to the material as supplied.

mutagenicity, cumulative and other chronic effects)

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

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

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

STOT - single exposure: Based on available data, the classification criteria are not met.

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

11.6 Acute toxicity data (LD50 with route of exposure and animal species; LC50 with exposure time (h) and animal species)

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

ATEmix (oral) 47,747.70 mg/kg

ATEmix (inhalation-dust/mist) 835.00 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)	-	-
Trade secret	= 29700 mg/kg (Rat)	-	-
Trade secret	= 3 g/kg (Rat)	> 10000 mg/kg (Rabbit)	> 42 mg/L (Rat) 1 h
Trade secret	= 15900 mg/kg (Rat)	-	-
Trade secret	= 325 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	-
Trade secret	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit)	0.054 - 0.52 mg/L (Rat) 4 h
Trade secret	= 53 mg/kg (Rat)	= 87.12 mg/kg (Rabbit)	-

12. Ecological information

12. 1

General description of the effects on the environment Environment, air: Air emission controls are not

(atmospheric air, water, soil, including symptoms of exposure) applicable as there is no direct release to air. Environment, water: Negligible wastewater emissions as process operates without water contact. Environment, soil: Soil emission controls are not applicable as there is no direct release to soil. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level continual releases.

12.2

Possible routes of release to the environment

Violation of the rules on storage and transportation of products. This product could affect the environment if incorrectly stored and transported, the waste is incinerated, it is discharged into bodies of water, or if there is an accident or emergency. Chemical Incidents.

12.3 Most important characteristics of the environmental impact

12.3.1

Hygienic standards (allowable concentrations in atmospheric air, water, including fishery waters, soils)

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Trade secret -	TSELatm: 0.1	Not established	Not established	Not established
Trade secret -	MACatm: 0.5 0.15 TSELatm: 0.15 res Hazard class 3	Not established	Not established	Not established
Trade secret -	TSELatm: 0.1	Not established	Not established	Not established
Trade secret -	TSELatm: 0.01	Not established	Hazard class 4	Not established
Trade secret -	Not established	Not established	MACfish: 0.002 toxicological Hazard class 2	Not established

1 - LHI – Limiting Hazard Indicator (tox. – toxicological; s.-t. (san.-tox.) – sanitary-toxicological; org. – organoleptic with indication of the nature of changes regarding organoleptic properties of water; sm. – changes the smell of the water; turb. – increases turbidity; col. – gives color to water; foam – causes foaming; film – forms a film on the water surface; taste. – gives the taste to water; opa. – causes opalescence); refl. – reflexive; res.. – resorptive; refl.-res. – reflexive-resorptive; fishery – fishery (changes in commercial quality of aquatic organisms); san. – general-sanitary)

2 - Bodies of water used for drinking and household use

3 - Bodies of water with fishery significance (including sea waters)

12.3.2

Ecotoxicity data (LC50, EC50, NOEC for fish, *Daphnia magna*, algae and other)

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>)
Trade secret	-	LC50: =45.4mg/L (96h, <i>Oncorhynchus mykiss</i>)	-
Trade secret	-	LC50: =0.8mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.7mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =5.46mg/L (96h, <i>Pimephales promelas</i>)	-

12.3.3

Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis, etc.) Persistence and degradability: No information available. Bioaccumulation: There is no data for this product. Mobility in soil: No information available. Mobility: No information available.

13. Disposal considerations

13.1

Safety precautions when handling waste arising from use, storage and transportation Ensure waste is collected and contained.

13.2

Information about the places and methods of decontamination, recycling or disposal of waste, including packaging material

Waste from residues/unused products:

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

13.3

Recommendations regarding disposal of waste generated when products are used in household applications

Not intended for household use.

14. Transport information

14.1 UN Number (according to the UN Recommendations on the Transport of Dangerous Goods)

14.2 Proper shipping name

14.3 Appropriate transportation methods

May be transported by all modes of transport in accordance with the rules of transport for dangerous goods effective for the transport of each type.

14.4 Classification of dangerous goods according to GOST 19433-88

14.5 Classification of dangerous goods according to the UN Recommendations on the Transport of Dangerous Goods

14.6 Transport labeling (symbols according to GOST 14192-96)

14.7 Emergency cards (for transportation by rail, sea and other ways)

IMDG EmS-No:

None

IATA ERG Code:

None

Special precautions for user

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

Marine transport (IMDG) Special Provisions

None

15. Regulatory information

15.1 National regulations

15.1.1 Laws of the Russian Federation

Federal law "On the sanitary-epidemiological welfare of the population"

Federal law "On technical regulation"

Federal law "On production and consumption wastes"

Federal law "On industrial safety of hazardous industrial objects"

Federal law "On Environmental Protection"

Federal law "On the protection of atmospheric air"

Federal law "On Fire Safety"

The Law of the Russian Federation "On Standardization"

"Law on Consumer Protection"

15.1.2 Information about the documents regulating the requirements for protection of people and the environment

None

15.2 International conventions and agreements (e.g.

whether the product is regulated by the Montreal Protocol, the Stockholm Convention and others)
The Montreal Protocol on Substances that Deplete the Not applicable
Ozone Layer:

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. Other information

16.1 Safety Passport Revision Information (for example, "First issue" or "SP has been reissued due to expiration of the original SP. The prior SP No... ." or "Changes have been made to the following sections... revision date...")

Revision date	23-Aug-2023
Revision Number	1
Revision Note	Reformatted and updated existing information

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

This safety data sheet was created pursuant to the requirements of: The Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Technical Regulation "On Safety of Chemical Products", GOST 30333, GOST 31340, GOST 19433, GOST 14192, GOST 32419, GOST 32421, GOST 32423, GOST 32424, GOST 32425, R 50.1.102, R 50.1.101.

Hazardous Substance Database:

Agency for Toxic Substances and Disease Registry (ATSDR) - Agency for Toxic Substances and Disease Registry (ATSDR)

CHEMVIEW not translate code - U.S. Environmental Protection Agency ChemView Database

EFSA not translate code - European Food Safety Authority (EFSA)

EPA not translate code - EPA (Environmental Protection Agency)

EPA_AEGL not translate code - Acute Exposure Guideline Level(s) (AEGL(s))

EPA_FIFRA not translate code - U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

EPA_HPV not translate code - U.S. Environmental Protection Agency High Production Volume Chemicals

FOOD_JOURN not translate code - Food Research Journal

HSDB not translate code - Hazardous Substance Database

IUCLID not translate code - International Uniform Chemical Information Database (IUCLID)

JAPAN_GHS not translate code - Japan GHS Classification

NICNAS not translate code - Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH not translate code - NIOSH (National Institute for Occupational Safety and Health)

NLM_CIP not translate code - National Library of Medicine's ChemID Plus (NLM CIP)

NLM_PUBMED not translate code - National Library of Medicine's PubMed database (NLM PUBMED)

NTP not translate code - National Toxicology Program (NTP)

NZ_CCID not translate code - New Zealand's Chemical Classification and Information Database (CCID)

OECD_EHSP not translate code - Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

OECD_HPV not translate code - Organization for Economic Co-operation and Development High Production Volume Chemicals Program

OECD_SIDS not translate code - Organization for Economic Co-operation and Development Screening Information Data Set

WHO not translate code - World Health Organization

4 The item numbers of the data sources are given in each paragraph of the SDS as links

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

SAFETY DATA SHEET

BIO-RAD

Revision date 23-Aug-2023

Revision Number 1

1. Identification

1.1 Product identifier

1.1.1 Technical Name Bio-Plex Mouse Diabetes Single-Plex Detection
1.1.2 Recommended use of the chemical and restrictions on use Recommended use: Laboratory chemicals.
Catalog Number(s) 10018499, 10018500, 10018501, 10018502, 10018503,
10018504, 10018505, 10018506

1.2 Detailed information about the manufacturer, supplier, and/or importer

1.2.1 Company Name
1.2.2

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

ООО «Био-Рад Лаборатории»
Нижний Сусальный переулок, дом 5,
строение 5А
105064
Москва
Российская Федерация

1.2.3 Emergency contact information 8-800-700-30-78.
1.2.4 FAX None
1.2.5 E-mail lifesc_support_RCIS@bio-rad.com

2. Hazard(s) identification

2.1 Classification of the substance or mixture

GHS Classification

Skin sensitization	Category 1A
Acute aquatic toxicity	Category 3
Chronic aquatic toxicity	Category 3

2.2 GHS Label elements, including precautionary statements

2.2.1 Signal word
2.2.2 Hazard symbols

Warning



2.2.3 Hazard statements

H317 - May cause an allergic skin reaction
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear eye protection/ face protection.

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Trade secret	The substance is not PBT / vPvB
Sodium phosphate dibasic	PBT assessment does not apply
Trade secret	PBT assessment does not apply
Trade secret	The substance is not PBT / vPvB
Trade secret	The substance is not PBT / vPvB
Trade secret	The substance is not PBT / vPvB
Trade secret	The substance is not PBT / vPvB

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

2.3 Other hazards

Contains animal source material. (Cattle).

3. Composition/information on ingredients

3.1 General product information

3.1.1 Chemical name (according to IUPAC)

3.1.2 Chemical formula

3.1.3 General characteristics of the product
(including brand and product range; production method)

3.2 Mixture

(name, CAS and EC numbers, mass fractions (totaling 100%), MAC (Maximum Available Concentrations) or TSEL (Tentative Safe Exposure Level), hazard classifications and references to the sources of data)

		Occupational exposure limits			
Chemical name	Weight-%	MAC, mg/m ³	Hazard class	CAS No	EC No (EU Index No)
Water	85			7732-18-5	231-791-2
Trade secret	0 - 10%	5	3		Listed
Sodium phosphate dibasic	0.1999	10	4	7558-79-4	231-448-7
Trade secret	0 - 10%				Listed
Trade secret	0 - 10%	10	4		Listed
Trade secret	0 - 10%				Listed
Trade secret	0 - 10%	5	3		Listed
Trade secret	0 - 10%	10	4		Listed
Trade secret	0 - 10%				Listed

4. First-aid measures

4.1 Symptoms

4.1.1

In case of inhalation poisoning (inhalation)

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

4.1.2

Skin contact

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

4.1.3

Eye contact

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

4.1.4

Ingestion

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

4.2 Description of necessary first aid measures

4.2.1

Inhalation

Remove to fresh air.

4.2.2

Skin contact

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

4.2.3

Eye contact

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

4.2.4

Ingestion

Clean mouth with water and drink afterwards plenty of water.

4.2.5

Contraindications

May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

5.1

General description of fire and explosion hazards (according to GOST 12.1.044-89)

Product is or contains a sensitizer. May cause sensitization by skin contact.

5.2

Indicators of fire and explosion hazards

Flash point

Flammability group: No information available.

Minimum Ignition Temperature (°C)

Not applicable

Autoignition temperature

Not applicable

Lower and upper explosion limit/flammability limit

Not applicable

Concentration limit (%): Not applicable

SADT (self-accelerating decomposition temperature)

Temperature range: Not applicable

Smoke production

Not applicable

Polymer combustion product toxicity index

Not applicable

Maximum Pressure Rise (bar)

Not applicable

Maximum Rate of Pressure Rise (bar/sec)

Not applicable

Not applicable

5.3 Combustion and/or thermal decomposition products and their hazards	No information available.
5.4 Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.5 Unsuitable extinguishing media	No information available.
5.6 Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
5.7 Advice for firefighters	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

6. Accidental release measures

6.1 Measures to prevent harm to people, property and the environment in case of an accident or an emergency

6.1.1 Personal precautions, protective equipment and emergency procedures	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
6.1.2 Personal Protective Equipment for emergency situations (PPE for first responders)	Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

6.2 Procedures for dealing with accidents and emergencies

6.2.1 Actions in case of leaks and spills (including measures for containment and clean-up, and to ensure protection of the environment)	Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information. Clean contaminated objects and areas thoroughly observing environmental regulations.
6.2.2 Actions in case of fire	Evacuate area and fight fire from a safe distance.

7. Handling and storage

7.1 Precautions for safe handling

7.1.1

Appropriate engineering controls

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

7.1.2

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Ensure control measures are regularly inspected and maintained. Prevent leaks and prevent soil / water pollution caused by leaks.

7.1.3

Recommendations for safe movement and transportation

See section 14 for more information:

Transport in accordance with the rules for the carriage of goods in force for each mode of transport. Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

7.2.2

Packaging materials

No information available.

7.3

Safety measures for household use and storage

Not intended for household use.

8. Exposure controls/personal protection

8.1

Control parameters

Chemical name	Type	MAC, mg/m ³	Remarks
Trade secret	MAC	5	Aerosol
Sodium phosphate dibasic	MAC	10	Aerosol
Trade secret	MAC	10	Aerosol
Trade secret	MAC	5	Aerosol
Trade secret	MAC	10	Aerosol

8.2

Appropriate engineering controls

Provide adequate ventilation. When not in use, keep containers tightly closed.

8.3 Personal protective equipment

8.3.1

General hygiene considerations

Handle in accordance with good industrial hygiene

	and safety practice.
8.3.2 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.
8.3.3 Personal protection equipment	
Skin and body protection:	Wear suitable protective clothing.
Hand protection:	Wear suitable gloves.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
8.3.4 Personal protective equipment for household use	Not intended for household use.

9. Physical and chemical properties

9.1 Physical state (aggregate state, color, odor)	Liquid Appearance: aqueous solution Color: colorless Odor: Odorless
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9.2 Information on basic physical and chemical properties
(transition temperatures, pH, solubility, Log Kow (coefficient of n-Octanol/water) and other parameters specific to the type of product)

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.4	
Melting point / freezing point	0 °C	
Initial boiling point and boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Solubility(ies)		
Water solubility	No data available	Miscible in water
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Viscosity		
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
<u>Other information</u>		
Oxidizing properties	Not applicable	
Explosive properties	Not applicable	
Softening point	Not applicable	

10. Stability and reactivity

10.1

Chemical stability

Stable under normal conditions.

Sensitivity to mechanical impact:

None.

Sensitivity to static discharge:

None.

Hazardous decomposition products:

None under normal use conditions.

10.2

Reactivity

No information available.

Possibility of hazardous reactions:

None under normal processing.

10.3

Conditions to avoid

None known.

Incompatible materials:

None known.

11. Toxicological information

11.1

General characteristics of exposure (assessment of health hazard (toxicity) and typical symptoms of exposure)

Itching. Rashes. Hives.

11.2 Information on the likely routes of exposure

In case of inhalation poisoning (inhalation)

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

Skin contact

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

Eye contact

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

Ingestion

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

11.3 Target organs, tissues and biological systems

No information available.

11.4

Information on hazard of direct contact with the product, as well as the consequences of such contact (e.g. irritation of upper respiratory tract, eyes or skin; skin-absorption and sensitizing actions)

The information presented below only applies to the material as supplied.

Skin corrosion/irritation:

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

Serious eye damage/eye irritation:

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

Respiratory or skin sensitization:	May cause sensitization by skin contact.
11.5 Information on long-term effects of exposure (e.g. reproductive toxicity, carcinogenicity, mutagenicity, cumulative and other chronic effects)	The information presented below only applies to the material as supplied.
Germ cell mutagenicity:	Based on available data, the classification criteria are not met
Carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
STOT - single exposure:	Based on available data, the classification criteria are not met.
Aspiration hazard:	Based on available data, the classification criteria are not met.

11.6 Acute toxicity data (LD50 with route of exposure and animal species; LC50 with exposure time (h) and animal species)

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

ATEmix (inhalation-dust/mist) 835.00 mg/l

Component Information

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
Sodium phosphate dibasic	= 17 g/kg (Rat)	-	-
Trade secret	= 8290 mg/kg (Rat)	> 7940 mg/kg (Rabbit)	> 0.83 mg/L (Rat) 4 h
Trade secret	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit)	0.054 - 0.52 mg/L (Rat) 4 h
Trade secret	= 2600 mg/kg (Rat)	-	-
Trade secret	= 3200 mg/kg (Rat)	-	> 0.83 mg/L (Rat) 4 h
Trade secret	= 53 mg/kg (Rat)	= 87.12 mg/kg (Rabbit)	-

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12. Ecological information

12.1

General description of the effects on the environment (atmospheric air, water, soil, including symptoms of exposure)

Environment, air: Air emission controls are not applicable as there is no direct release to air.

Environment, water: Negligible wastewater emissions as process operates without water contact.

Environment, soil: Soil emission controls are not applicable as there is no direct release to soil. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level continual releases.

12.2

Possible routes of release to the environment

Violation of the rules on storage and transportation of products. This product could affect the environment if incorrectly stored and transported, the waste is incinerated, it is discharged into bodies of water, or if there is an accident or emergency. Chemical Incidents.

12.3 Most important characteristics of the environmental impact

12.3.1

Hygienic standards (allowable concentrations in atmospheric air, water, including fishery waters, soils)

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Trade secret -	MAC _{atm} : 0.5 0.15 TSEL _{atm} : 0.15 res Hazard class 3	Not established	Not established	Not established
Sodium phosphate dibasic - 7558-79-4	TSEL _{atm} : 0.1	Not established	Not established	Not established
Trade secret -	Not established	AAL _{water} : 3.5 san Hazard class 3	MAC _{fish} : 0.05 0.15 0.2	Not established
Trade secret -	MAC _{atm} : 0.3 0.1 res Hazard class 4	Not established	Not established	Not established
Trade secret -	Not established	Not established	MAC _{fish} : 0.05 0.15	Not established

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
			0.2	
Trade secret -	Not established	Not established	MACfish: 0.002 toxicological Hazard class 2	Not established

1 - LHI – Limiting Hazard Indicator (tox. – toxicological; s.-t. (san.-tox.) – sanitary-toxicological; org. – organoleptic with indication of the nature of changes regarding organoleptic properties of water; sm. – changes the smell of the water; turb. – increases turbidity; col. – gives color to water; foam – causes foaming; film – forms a film on the water surface; taste. – gives the taste to water; opa. – causes opalescence; refl. – reflexive; res. – resorptive; refl.-res. – reflexive-resorptive; fishery – fishery (changes in commercial quality of aquatic organisms); san. – general-sanitary)

2 - Bodies of water used for drinking and household use

3 - Bodies of water with fishery significance (including sea waters)

12.3.2

Ecotoxicity data (LC50, EC50, NOEC for fish, Daphnia magna, algae and other)

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>)
Trade secret	-	LC50: =0.8mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.7mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =5.46mg/L (96h, <i>Pimephales promelas</i>)	-
Trade secret	EC50: =2500mg/L (72h, <i>Desmodesmus subspicatus</i>)	LC50: =1060mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 750 - 1020mg/L (96h, <i>Pimephales promelas</i>)	EC50: =825mg/L (48h, <i>Daphnia magna</i>) EC50: =83mg/L (48h, <i>Daphnia magna</i>)

12.3.3

Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis, etc.)

Persistence and degradability: No information available. Bioaccumulation: There is no data for this product. Mobility in soil: No information available. Mobility: No information available.

13. Disposal considerations

13.1

Safety precautions when handling waste arising from use, storage and transportation Ensure waste is collected and contained.

13.2

Information about the places and methods of decontamination, recycling or disposal of waste, including packaging material

Waste from residues/unused products:

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

13.3

Recommendations regarding disposal of waste generated when products are used in household applications

Not intended for household use.

14. Transport information

14.1 UN Number (according to the UN Recommendations on the Transport of Dangerous Goods)

14.2 Proper shipping name

14.3 Appropriate transportation methods

May be transported by all modes of transport in accordance with the rules of transport for dangerous goods effective for the transport of each type.

14.4 Classification of dangerous goods according to GOST 19433-88

14.5 Classification of dangerous goods according to the UN Recommendations on the Transport of Dangerous Goods

14.6 Transport labeling (symbols according to GOST 14192-96)

14.7 Emergency cards (for transportation by rail, sea and other ways)

IMDG EmS-No:

None

IATA ERG Code:

None

Special precautions for user

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

Marine transport (IMDG) Special Provisions

None

15. Regulatory information

15.1 National regulations

15.1.1 Laws of the Russian Federation	Federal law "On the sanitary-epidemiological welfare of the population" Federal law "On technical regulation" Federal law "On production and consumption wastes" Federal law "On industrial safety of hazardous industrial objects" Federal law "On Environmental Protection" Federal law "On the protection of atmospheric air" Federal law "On Fire Safety" The Law of the Russian Federation "On Standardization" "Law on Consumer Protection"
15.1.2 Information about the documents regulating the requirements for protection of people and the environment	None
15.2 International conventions and agreements (e.g. whether the product is regulated by the Montreal Protocol, the Stockholm Convention and others)	
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

16. Other information

16.1 Safety Passport Revision Information (for example, "First issue" or "SP has been reissued due to expiration of the original SP. The prior SP No... ." or "Changes have been made to the following sections... revision date...")

Revision date	23-Aug-2023
Revision Number	1
Revision Note	Reformatted and updated existing information

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

This safety data sheet was created pursuant to the requirements of: The Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Technical Regulation "On Safety of Chemical Products", GOST 30333, GOST 31340, GOST 19433, GOST 14192, GOST 32419, GOST 32421, GOST 32423, GOST 32424, GOST 32425, R 50.1.102, R 50.1.101.

Hazardous Substance Database:

- Agency for Toxic Substances and Disease Registry (ATSDR) - Agency for Toxic Substances and Disease Registry (ATSDR)
- CHEMVIEW not translate code - U.S. Environmental Protection Agency ChemView Database
- EFSA not translate code - European Food Safety Authority (EFSA)
- EPA not translate code - EPA (Environmental Protection Agency)
- EPA_AEGL not translate code - Acute Exposure Guideline Level(s) (AEGL(s))

EPA_FIFRA not translate code - U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

EPA_HPVS not translate code - U.S. Environmental Protection Agency High Production Volume Chemicals

FOOD_JOURN not translate code - Food Research Journal

HSDB not translate code - Hazardous Substance Database

IUCLID not translate code - International Uniform Chemical Information Database (IUCLID)

JAPAN_GHS not translate code - Japan GHS Classification

NICNAS not translate code - Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH not translate code - NIOSH (National Institute for Occupational Safety and Health)

NLM_CIP not translate code - National Library of Medicine's ChemID Plus (NLM CIP)

NLM_PUBMED not translate code - National Library of Medicine's PubMed database (NLM PUBMED)

NTP not translate code - National Toxicology Program (NTP)

NZ_CCID not translate code - New Zealand's Chemical Classification and Information Database (CCID)

OECD_EHSP not translate code - Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

OECD_HPVS not translate code - Organization for Economic Co-operation and Development High Production Volume Chemicals Program

OECD_SIDS not translate code - Organization for Economic Co-operation and Development Screening Information Data Set

WHO not translate code - World Health Organization

4 The item numbers of the data sources are given in each paragraph of the SDS as links

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

SAFETY DATA SHEET

BIO-RAD

Revision date 17-May-2023

Revision Number 1.1

1. Identification

1.1 Product identifier

1.1.1 Technical Name Bio-Plex Sample Diluent
1.1.2 Recommended use of the chemical and restrictions on use Recommended use: Laboratory chemicals.
Catalog Number(s) 10014641, 9704423, 9703895, 171305043, 10022628, 10041561, 12005851

1.2 Detailed information about the manufacturer, supplier, and/or importer

1.2.1 Company Name
1.2.2

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

ООО «Био-Рад Лаборатории»
Нижний Сусальный переулок, дом 5,
строение 5А
105064
Москва
Российская Федерация

1.2.3 Emergency contact information 8-800-700-30-78.
1.2.4 FAX None
1.2.5 E-mail lifesc_support_RCIS@bio-rad.com

2. Hazard(s) identification

2.1 Classification of the substance or mixture

GHS Classification

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

2.2 GHS Label elements, including precautionary statements

2.2.1
2.2.2 Hazard symbols
2.2.3 Hazard statements

PBT and vPvB assessment No information available.

Chemical name	PBT and vPvB assessment
Trade secret	PBT assessment does not apply
Trade secret	The substance is not PBT / vPvB
Trade secret	The substance is not PBT / vPvB
Trade secret	The substance is not PBT / vPvB

Endocrine Disruptor Information

This product does not contain any known or suspected

endocrine disruptors.

2.3 Other hazards

Contains animal source material. (Cattle). Contains animal source material. (Cattle).

3. Composition/information on ingredients

3.1 General product information

3.1.1 Chemical name (according to IUPAC)

3.1.2 Chemical formula

3.1.3 General characteristics of the product
(including brand and product range; production method)

3.2 Mixture

(name, CAS and EC numbers, mass fractions (totaling 100%), MAC (Maximum Available Concentrations) or TSEL (Tentative Safe Exposure Level), hazard classifications and references to the sources of data)

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

		Occupational exposure limits			
Chemical name	Weight-%	MAC, mg/m ³	Hazard class	CAS No	EC No (EU Index No)
Water	98.653			7732-18-5	231-791-2
Trade secret	0 - 10%	10	4		Listed
Trade secret	0 - 10%				Not Listed
Trade secret	0 - 10%	10	4		Not Listed
Trade secret	0 - 10%				Listed
Trade secret	0 - 10%				Listed

4. First-aid measures

4.1 Symptoms

4.1.1

In case of inhalation poisoning (inhalation)

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

4.1.2

Skin contact

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

4.1.3

Eye contact

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

4.1.4

Ingestion

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

4.2 Description of necessary first aid measures

4.2.1

Inhalation

Remove to fresh air.

4.2.2

Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
4.2.3	
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
4.2.4	
Ingestion	Clean mouth with water and drink afterwards plenty of water.
4.2.5	
Contraindications	Treat symptomatically. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

5.1	
General description of fire and explosion hazards (according to GOST 12.1.044-89)	No information available.
5.2	
Indicators of fire and explosion hazards	Flammability group: No information available.
Flash point	Not applicable
Minimum Ignition Temperature (°C)	Not applicable
Autoignition temperature	Not applicable
Lower and upper explosion limit/flammability limit	Concentration limit (%): Not applicable
SADT (self-accelerating decomposition temperature)	Temperature range: Not applicable
Smoke production	Not applicable
Polymer combustion product toxicity index	Not applicable
Maximum Pressure Rise (bar)	Not applicable
Maximum Rate of Pressure Rise (bar/sec)	Not applicable
5.3	
Combustion and/or thermal decomposition products and their hazards	No information available.
5.4	
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.5	
Unsuitable extinguishing media	No information available.
5.6	
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
5.7	
Advice for firefighters	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to

control or extinguish the fire.

6. Accidental release measures

6.1 Measures to prevent harm to people, property and the environment in case of an accident or an emergency

6.1.1

Personal precautions, protective equipment and emergency procedures

See section 8 for more information.

6.1.2

Personal Protective Equipment for emergency situations (PPE for first responders)

Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

6.2 Procedures for dealing with accidents and emergencies

6.2.1

Actions in case of leaks and spills (including measures for containment and clean-up, and to ensure protection of the environment)

Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information. Clean contaminated objects and areas thoroughly observing environmental regulations.

6.2.2

Actions in case of fire

Evacuate area and fight fire from a safe distance.

7. Handling and storage

7.1 Precautions for safe handling

7.1.1

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

7.1.2

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Ensure control measures are regularly inspected and maintained. Prevent leaks and prevent soil / water pollution caused by leaks.

7.1.3

Recommendations for safe movement and transportation

See section 14 for more information:

Transport in accordance with the rules for the carriage of goods in force for each mode of transport. Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1

Storage Conditions

Store according to product and label instructions.
Metals.

Incompatible materials

7.2.2

Packaging materials

No information available.

7.3

Safety measures for household use and storage

Not intended for household use.

8. Exposure controls/personal protection

8.1

Control parameters

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

Chemical name	Type	MAC, mg/m ³	Remarks
Trade secret	MAC	10	Aerosol
Trade secret	MAC	10	Aerosol

8.2

Appropriate engineering controls

Provide adequate ventilation. When not in use, keep containers tightly closed.

8.3 Personal protective equipment

8.3.1

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

8.3.2

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.

8.3.3

Personal protection equipment

Skin and body protection:

No special protective equipment required.

Hand protection:

No special protective equipment required.

Eye/face protection:

No special protective equipment required.

8.3.4

Personal protective equipment for household use

Not intended for household use.

9. Physical and chemical properties

9.1 Physical state

(aggregate state, color, odor)

Liquid

Appearance: aqueous solution

Color: colorless

Odor: Odorless

9.2 Information on basic physical and chemical properties

(transition temperatures, pH, solubility, Log Kow (coefficient of n-Octanol/water) and other parameters specific to the type of

product)

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.4	
Melting point / freezing point	0 °C	
Initial boiling point and boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Solubility(ies)		
Water solubility	No data available	Miscible in water
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Viscosity		
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
<u>Other information</u>		
Oxidizing properties	Not applicable	
Explosive properties	Not applicable	
Softening point	Not applicable	

10. Stability and reactivity

10.1

Chemical stability	Stable under normal conditions.
Sensitivity to mechanical impact:	None.
Sensitivity to static discharge:	None.
Hazardous decomposition products:	None under normal use conditions.

10.2

Reactivity	No information available.
Possibility of hazardous reactions:	Avoid contact with metals. This product contains sodium azide. Sodium azide can react with copper, brass, lead, and solder in piping systems to form explosive compounds and toxic gases.

10.3

Conditions to avoid	None known.
Incompatible materials:	Metals.

11. Toxicological information

11.1

General characteristics of exposure (assessment of health hazard (toxicity) and typical symptoms of exposure)	None known.
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11.2 Information on the likely routes of exposure

In case of inhalation poisoning (inhalation)	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
11.3 Target organs, tissues and biological systems	No information available.
11.4 Information on hazard of direct contact with the product, as well as the consequences of such contact (e.g. irritation of upper respiratory tract, eyes or skin; skin-absorption and sensitizing actions)	The information presented below only applies to the material as supplied.
Skin corrosion/irritation:	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation:	Based on available data, the classification criteria are not met.
Respiratory or skin sensitization:	Based on available data, the classification criteria are not met.
11.5 Information on long-term effects of exposure (e.g. reproductive toxicity, carcinogenicity, mutagenicity, cumulative and other chronic effects)	The information presented below only applies to the material as supplied.
Germ cell mutagenicity:	Based on available data, the classification criteria are not met
Carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
STOT - single exposure:	Based on available data, the classification criteria are not met.

Aspiration hazard:

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

11.6 Acute toxicity data (LD50 with route of exposure and animal species; LC50 with exposure time (h) and animal species)

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

ATEmix (oral) 1,473,684.20 mg/kg

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)	-	-
Trade secret	= 8290 mg/kg (Rat)	> 7940 mg/kg (Rabbit)	> 0.83 mg/L (Rat) 4 h
Trade secret	= 22 g/kg (Rat)	> 20 g/kg (Rabbit)	-
Trade secret	= 5700 mg/kg (Rat) = 16 g/kg (Rat)	-	= 320 mg/m ³ (Rat) 4 h
Trade secret	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit)	0.054 - 0.52 mg/L (Rat) 4 h

12. Ecological information

12.1

General description of the effects on the environment (atmospheric air, water, soil, including symptoms of exposure)

Environment, air: Air emission controls are not applicable as there is no direct release to air.
Environment, water: Negligible wastewater emissions as process operates without water contact.
Environment, soil: Soil emission controls are not applicable as there is no direct release to soil. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level continual releases.

12.2

Possible routes of release to the environment

Violation of the rules on storage and transportation of products. This product could affect the environment if incorrectly stored and transported, the waste is incinerated, it is discharged into bodies of water, or if there is an accident or emergency. Chemical Incidents.

12.3 Most important characteristics of the environmental impact

12.3.1

Hygienic standards (allowable concentrations in atmospheric air, water, including fishery waters, soils) Not established

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Trade secret -	Not established	AALwater: 3.5 san Hazard class 3	MACfish: 0.05 0.15 0.2	Not established
Trade secret -	TSELatm: 0.15	AALwater: 0.25 0.1 0.02 MACwater: 0.25 0.1 0.02 org.foam san Hazard class 3 Hazard class 4	MACfish: 2.5 0.001 10 toxicological san.-tox san Hazard class 3 Hazard class 4	Not established
Trade secret -	Not established	MACwater: 0.1 org.foam Hazard class 4	MACfish: 0.25 toxicological Hazard class 4	Not established

1 - LHI – Limiting Hazard Indicator (tox. – toxicological; s.-t. (san.-tox.) – sanitary-toxicological; org. – organoleptic with indication of the nature of changes regarding organoleptic properties of water; sm. – changes the smell of the water; turb. – increases turbidity; col. – gives color to water; foam – causes foaming; film – forms a film on the water surface; taste. – gives the taste to water; opa. – causes opalescence; refl. – reflexive; res.. – resorptive; refl.-res. – reflexive-resorptive; fishery – fishery (changes in commercial quality of aquatic organisms); san. –general-sanitary)

2 - Bodies of water used for drinking and household use

3 - Bodies of water with fishery significance (including sea waters)

12.3.2

Ecotoxicity data (LC50, EC50, NOEC for fish, Daphnia magna, algae and other)

Chemical name	Algae/aquatic plants	Fish	Crustacea
Trade secret	-	LC50: =0.8mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.7mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =5.46mg/L (96h, <i>Pimephales promelas</i>)	-

12.3.3

Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis, etc.) Persistence and degradability: No information available. Bioaccumulation: No information available. Mobility in soil: No information available. Mobility: No information available.

13. Disposal considerations

13.1

Safety precautions when handling waste arising from use, storage and transportation Ensure waste is collected and contained.

13.2

Information about the places and methods of decontamination, recycling or disposal of waste, including packaging material

Waste from residues/unused products:

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Flush pipes with water frequently if discarding solutions containing sodium azide into metal piping systems.

13.3

Recommendations regarding disposal of waste generated when products are used in household applications

Not intended for household use.

14. Transport information

14.1 UN Number (according to the UN Recommendations on the Transport of Dangerous Goods)

14.2 Proper shipping name

14.3 Appropriate transportation methods

May be transported by all modes of transport in accordance with the rules of transport for dangerous goods effective for the transport of each type.

14.4 Classification of dangerous goods according to GOST 19433-88

14.5 Classification of dangerous goods according to the UN Recommendations on the Transport of Dangerous Goods

14.6 Transport labeling (symbols according to GOST 14192-96)

14.7 Emergency cards (for transportation by rail, sea and other ways)

IMDG EmS-No:

None

IATA ERG Code:

None

Special precautions for user

Special provisions from the regulations relative to the specified mode of transport are noted by numeric

	code. Refer to the regulations for the full text of special provisions
Marine transport (IMDG) Special Provisions	None

15. Regulatory information

15.1 National regulations

15.1.1 Laws of the Russian Federation	Federal law "On the sanitary-epidemiological welfare of the population" Federal law "On technical regulation" Federal law "On production and consumption wastes" Federal law "On industrial safety of hazardous industrial objects" Federal law "On Environmental Protection" Federal law "On the protection of atmospheric air" Federal law "On Fire Safety" The Law of the Russian Federation "On Standardization" "Law on Consumer Protection"
15.1.2 Information about the documents regulating the requirements for protection of people and the environment	None
15.2 International conventions and agreements (e.g. whether the product is regulated by the Montreal Protocol, the Stockholm Convention and others)	
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

16. Other information

16.1 Safety Passport Revision Information (for example, "First issue" or "SP has been reissued due to expiration of the original SP. The prior SP No... ." or "Changes have been made to the following sections... revision date...")	
Revision date	17-May-2023
Revision Number	1.1
Revision Note	Reformatted and updated existing information

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

This safety data sheet was created pursuant to the requirements of: The Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Technical Regulation "On Safety of Chemical Products", GOST 30333, GOST 31340, GOST 19433, GOST 14192, GOST 32419, GOST 32421, GOST 32423, GOST 32424, GOST 32425, R 50.1.102, R 50.1.101.

Hazardous Substance Database:

Agency for Toxic Substances and Disease Registry (ATSDR) - Agency for Toxic Substances and Disease Registry (ATSDR)

CHEMVIEW not translate code - U.S. Environmental Protection Agency ChemView Database
EFSA not translate code - European Food Safety Authority (EFSA)
EPA not translate code - EPA (Environmental Protection Agency)
EPA_AEGL not translate code - Acute Exposure Guideline Level(s) (AEGL(s))
EPA_FIFRA not translate code - U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
EPA_HPVC not translate code - U.S. Environmental Protection Agency High Production Volume Chemicals
FOOD_JOURN not translate code - Food Research Journal
HSDB not translate code - Hazardous Substance Database
IUCLID not translate code - International Uniform Chemical Information Database (IUCLID)
JAPAN_GHS not translate code - Japan GHS Classification
NICNAS not translate code - Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH not translate code - NIOSH (National Institute for Occupational Safety and Health)
NLM_CIP not translate code - National Library of Medicine's ChemID Plus (NLM CIP)
NLM_PUBMED not translate code - National Library of Medicine's PubMed database (NLM PUBMED)
NTP not translate code - National Toxicology Program (NTP)
NZ_CCID not translate code - New Zealand's Chemical Classification and Information Database (CCID)
OECD_EHSP not translate code - Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
OECD_HPVC not translate code - Organization for Economic Co-operation and Development High Production Volume Chemicals Program
OECD_SIDS not translate code - Organization for Economic Co-operation and Development Screening Information Data Set
WHO not translate code - World Health Organization

4 The item numbers of the data sources are given in each paragraph of the SDS as links

Disclaimer

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SAFETY DATA SHEET

BIO-RAD

Revision date 17-May-2023

Revision Number 1.1

1. Identification

1.1 Product identifier

1.1.1 Technical Name Bio-Plex Standard Diluent
1.1.2 Recommended use of the chemical and restrictions on use Recommended use: Laboratory chemicals.
Catalog Number(s) 9703888, 9704424, 171305042, 171304080M, 10022368, 12005853

1.2 Detailed information about the manufacturer, supplier, and/or importer

1.2.1 Company Name
1.2.2

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

ООО «Био-Рад Лаборатории»
Нижний Сусальный переулок, дом 5,
строение 5А
105064
Москва
Российская Федерация

1.2.3 Emergency contact information 8-800-700-30-78.
1.2.4 FAX None
1.2.5 E-mail lifesc_support_RCIS@bio-rad.com

2. Hazard(s) identification

2.1 Classification of the substance or mixture

GHS Classification

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

2.2 GHS Label elements, including precautionary statements

2.2.1
2.2.2 Hazard symbols
2.2.3 Hazard statements

PBT and vPvB assessment No information available.

Chemical name	PBT and vPvB assessment
Trade secret	PBT assessment does not apply
Trade secret	The substance is not PBT / vPvB
Trade secret	The substance is not PBT / vPvB

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

2.3 Other hazards

Contains animal source material. (Cattle). Contains animal source material. (Cattle).

3. Composition/information on ingredients

3.1 General product information

3.1.1 Chemical name (according to IUPAC)

3.1.2 Chemical formula

3.1.3 General characteristics of the product
(including brand and product range; production method)

3.2 Mixture

(name, CAS and EC numbers, mass fractions (totaling 100%), MAC (Maximum Available Concentrations) or TSEL (Tentative Safe Exposure Level), hazard classifications and references to the sources of data)

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

		Occupational exposure limits			
Chemical name	Weight-%	MAC, mg/m ³	Hazard class	CAS No	EC No (EU Index No)
Water	74.0725			7732-18-5	231-791-2
Trade secret	0 - 10%	10	4		Listed
Trade secret	0 - 10%	10	4		Not Listed
Trade secret	0 - 10%				Listed
Trade secret	0 - 10%				Listed

4. First-aid measures

4.1 Symptoms

4.1.1

In case of inhalation poisoning (inhalation)

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

4.1.2

Skin contact

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

4.1.3

Eye contact

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

4.1.4

Ingestion

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

4.2 Description of necessary first aid measures

4.2.1

Inhalation

Remove to fresh air.

4.2.2

Skin contact

In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.

4.2.3	
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
4.2.4	
Ingestion	Clean mouth with water and drink afterwards plenty of water.
4.2.5	
Contraindications	Treat symptomatically. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

5.1	
General description of fire and explosion hazards (according to GOST 12.1.044-89)	No information available.
5.2	
Indicators of fire and explosion hazards	Flammability group: No information available.
Flash point	Not applicable
Minimum Ignition Temperature (°C)	Not applicable
Autoignition temperature	Not applicable
Lower and upper explosion limit/flammability limit	Concentration limit (%): Not applicable
SADT (self-accelerating decomposition temperature)	Temperature range: Not applicable
Smoke production	Not applicable
Polymer combustion product toxicity index	Not applicable
Maximum Pressure Rise (bar)	Not applicable
Maximum Rate of Pressure Rise (bar/sec)	Not applicable
5.3	
Combustion and/or thermal decomposition products and their hazards	No information available.
5.4	
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.5	
Unsuitable extinguishing media	No information available.
5.6	
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
5.7	
Advice for firefighters	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

6. Accidental release measures

6.1 Measures to prevent harm to people, property and the environment in case of an accident or an emergency

6.1.1

Personal precautions, protective equipment and emergency procedures

See section 8 for more information.

6.1.2

Personal Protective Equipment for emergency situations (PPE for first responders)

Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

6.2 Procedures for dealing with accidents and emergencies

6.2.1

Actions in case of leaks and spills (including measures for containment and clean-up, and to ensure protection of the environment)

Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information. Clean contaminated objects and areas thoroughly observing environmental regulations.

6.2.2

Actions in case of fire

Evacuate area and fight fire from a safe distance.

7. Handling and storage

7.1 Precautions for safe handling

7.1.1

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

7.1.2

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Ensure control measures are regularly inspected and maintained. Prevent leaks and prevent soil / water pollution caused by leaks.

7.1.3

Recommendations for safe movement and transportation

See section 14 for more information:

Transport in accordance with the rules for the carriage of goods in force for each mode of transport. Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1

Storage Conditions

Store according to product and label instructions.

Incompatible materials	Metals.
7.2.2 Packaging materials	No information available.
7.3 Safety measures for household use and storage	Not intended for household use.

8. Exposure controls/personal protection

8.1 Control parameters	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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Chemical name	Type	MAC, mg/m ³	Remarks
Trade secret	MAC	10	Aerosol
Trade secret	MAC	10	Aerosol

8.2 Appropriate engineering controls	Provide adequate ventilation. When not in use, keep containers tightly closed.
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8.3 Personal protective equipment

8.3.1 General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
8.3.2 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.
8.3.3 Personal protection equipment	
Skin and body protection:	No special protective equipment required.
Hand protection:	No special protective equipment required.
Eye/face protection:	No special protective equipment required.
8.3.4 Personal protective equipment for household use	Not intended for household use.

9. Physical and chemical properties

9.1 Physical state (aggregate state, color, odor)	Liquid Appearance: aqueous solution Color: colorless Odor: Odorless
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9.2 Information on basic physical and chemical properties (transition temperatures, pH, solubility, Log K _{ow} (coefficient of n-Octanol/water) and other parameters specific to the type of product)	
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<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.4	
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Solubility(ies)		
Water solubility	No data available	Miscible in water
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Viscosity		
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
<u>Other information</u>		
Oxidizing properties	Not applicable	
Explosive properties	Not applicable	
Softening point	Not applicable	

10. Stability and reactivity

10.1

Chemical stability	Stable under normal conditions.
Sensitivity to mechanical impact:	None.
Sensitivity to static discharge:	None.
Hazardous decomposition products:	None under normal use conditions.

10.2

Reactivity	No information available.
Possibility of hazardous reactions:	Avoid contact with metals. This product contains sodium azide. Sodium azide can react with copper, brass, lead, and solder in piping systems to form explosive compounds and toxic gases.

10.3

Conditions to avoid	None known.
Incompatible materials:	Metals.

11. Toxicological information

11.1

General characteristics of exposure (assessment of health hazard (toxicity) and typical symptoms of exposure)	None known.
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11.2 Information on the likely routes of exposure

In case of inhalation poisoning (inhalation)	Specific test data for the substance or mixture is not
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Skin contact	available. Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
11.3 Target organs, tissues and biological systems	No information available.
11.4 Information on hazard of direct contact with the product, as well as the consequences of such contact (e.g. irritation of upper respiratory tract, eyes or skin; skin-absorption and sensitizing actions)	The information presented below only applies to the material as supplied.
Skin corrosion/irritation:	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation:	Based on available data, the classification criteria are not met.
Respiratory or skin sensitization:	Based on available data, the classification criteria are not met.
11.5 Information on long-term effects of exposure (e.g. reproductive toxicity, carcinogenicity, mutagenicity, cumulative and other chronic effects)	The information presented below only applies to the material as supplied.
Germ cell mutagenicity:	Based on available data, the classification criteria are not met
Carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
STOT - single exposure:	Based on available data, the classification criteria are not met.

Aspiration hazard:

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

11.6 Acute toxicity data (LD50 with route of exposure and animal species; LC50 with exposure time (h) and animal species)

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)	-	-
Trade secret	= 8290 mg/kg (Rat)	> 7940 mg/kg (Rabbit)	> 0.83 mg/L (Rat) 4 h
Trade secret	= 22 g/kg (Rat)	> 20 g/kg (Rabbit)	-
Trade secret	= 5700 mg/kg (Rat) = 16 g/kg (Rat)	-	= 320 mg/m ³ (Rat) 4 h
Trade secret	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit)	0.054 - 0.52 mg/L (Rat) 4 h

12. Ecological information

12.1

General description of the effects on the environment (atmospheric air, water, soil, including symptoms of exposure)

Environment, air: Air emission controls are not applicable as there is no direct release to air.
Environment, water: Negligible wastewater emissions as process operates without water contact.
Environment, soil: Soil emission controls are not applicable as there is no direct release to soil. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level continual releases.

12.2

Possible routes of release to the environment

Violation of the rules on storage and transportation of products. This product could affect the environment if incorrectly stored and transported, the waste is incinerated, it is discharged into bodies of water, or if there is an accident or emergency. Chemical Incidents.

12.3 Most important characteristics of the environmental impact

12.3.1

Hygienic standards (allowable concentrations in atmospheric air, water, including fishery waters, soils) Not established

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Trade secret -	Not established	AALwater: 3.5 san Hazard class 3	MACfish: 0.05 0.15 0.2	Not established
Trade secret -	TSELatm: 0.15	AALwater: 0.25 0.1 0.02 MACwater: 0.25 0.1 0.02 org.foam san Hazard class 3 Hazard class 4	MACfish: 2.5 0.001 10 toxicological san.-tox san Hazard class 3 Hazard class 4	Not established
Trade secret -	Not established	MACwater: 0.1 org.foam Hazard class 4	MACfish: 0.25 toxicological Hazard class 4	Not established

1 - LHI – Limiting Hazard Indicator (tox. – toxicological; s.-t. (san.-tox.) – sanitary-toxicological; org. – organoleptic with indication of the nature of changes regarding organoleptic properties of water; sm. – changes the smell of the water; turb. – increases turbidity; col. – gives color to water; foam – causes foaming; film – forms a film on the water surface; taste. – gives the taste to water; opa. – causes opalescence); refl. – reflexive; res.. – resorptive; refl.-res. – reflexive-resorptive; fishery – fishery (changes in commercial quality of aquatic organisms); san. –general-sanitary)

2 - Bodies of water used for drinking and household use

3 - Bodies of water with fishery significance (including sea waters)

12.3.2

Ecotoxicity data (LC50, EC50, NOEC for fish, *Daphnia magna*, algae and other)

Chemical name	Algae/aquatic plants	Fish	Crustacea
Trade secret	-	LC50: =0.8mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.7mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =5.46mg/L (96h, <i>Pimephales promelas</i>)	-

12.3.3

Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis, etc.)

Persistence and degradability: No information available. Bioaccumulation: No information available. Mobility in soil: No information available. Mobility: No information available.

13. Disposal considerations

13.1

Safety precautions when handling waste arising from use, storage and transportation Ensure waste is collected and contained.

13.2

Information about the places and methods of decontamination, recycling or disposal of waste, including packaging material

Waste from residues/unused products:

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Flush pipes with water frequently if discarding solutions containing sodium azide into metal piping systems.

13.3

Recommendations regarding disposal of waste generated when products are used in household applications

Not intended for household use.

14. Transport information

14.1 UN Number (according to the UN Recommendations on the Transport of Dangerous Goods)

14.2 Proper shipping name

14.3 Appropriate transportation methods

May be transported by all modes of transport in accordance with the rules of transport for dangerous goods effective for the transport of each type.

14.4 Classification of dangerous goods according to GOST 19433-88

14.5 Classification of dangerous goods according to the UN Recommendations on the Transport of Dangerous Goods

14.6 Transport labeling (symbols according to GOST 14192-96)

14.7 Emergency cards (for transportation by rail, sea and other ways)

IMDG EmS-No:

None

IATA ERG Code:

None

Special precautions for user

Special provisions from the regulations relative to the specified mode of transport are noted by numeric

	code. Refer to the regulations for the full text of special provisions
Marine transport (IMDG) Special Provisions	None

15. Regulatory information

15.1 National regulations

15.1.1 Laws of the Russian Federation	Federal law "On the sanitary-epidemiological welfare of the population" Federal law "On technical regulation" Federal law "On production and consumption wastes" Federal law "On industrial safety of hazardous industrial objects" Federal law "On Environmental Protection" Federal law "On the protection of atmospheric air" Federal law "On Fire Safety" The Law of the Russian Federation "On Standardization" "Law on Consumer Protection"
15.1.2 Information about the documents regulating the requirements for protection of people and the environment	None
15.2 International conventions and agreements (e.g. whether the product is regulated by the Montreal Protocol, the Stockholm Convention and others)	
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

16. Other information

16.1 Safety Passport Revision Information (for example, "First issue" or "SP has been reissued due to expiration of the original SP. The prior SP No... ." or "Changes have been made to the following sections... revision date...")	
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Hazardous Substance Database:

Agency for Toxic Substances and Disease Registry (ATSDR) - Agency for Toxic Substances and Disease Registry (ATSDR)

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EFSA not translate code - European Food Safety Authority (EFSA)
EPA not translate code - EPA (Environmental Protection Agency)
EPA_AEGL not translate code - Acute Exposure Guideline Level(s) (AEGL(s))
EPA_FIFRA not translate code - U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
EPA_HPVC not translate code - U.S. Environmental Protection Agency High Production Volume Chemicals
FOOD_JOURN not translate code - Food Research Journal
HSDB not translate code - Hazardous Substance Database
IUCLID not translate code - International Uniform Chemical Information Database (IUCLID)
JAPAN_GHS not translate code - Japan GHS Classification
NICNAS not translate code - Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH not translate code - NIOSH (National Institute for Occupational Safety and Health)
NLM_CIP not translate code - National Library of Medicine's ChemID Plus (NLM CIP)
NLM_PUBMED not translate code - National Library of Medicine's PubMed database (NLM PUBMED)
NTP not translate code - National Toxicology Program (NTP)
NZ_CCID not translate code - New Zealand's Chemical Classification and Information Database (CCID)
OECD_EHSP not translate code - Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
OECD_HPVC not translate code - Organization for Economic Co-operation and Development High Production Volume Chemicals Program
OECD_SIDS not translate code - Organization for Economic Co-operation and Development Screening Information Data Set
WHO not translate code - World Health Organization

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SAFETY DATA SHEET

BIO-RAD

Revision date 17-May-2023

Revision Number 1.1

1. Identification

1.1 Product identifier

1.1.1 Technical Name Streptavidin-PE
1.1.2 Recommended use of the chemical and restrictions on use Recommended use: Laboratory chemicals.
Catalog Number(s) 171304501, 9704418, 9703887, 9703897

1.2 Detailed information about the manufacturer, supplier, and/or importer

1.2.1 Company Name

1.2.2

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

ООО «Био-Рад Лаборатории»
Нижний Сусальный переулок, дом 5,
строение 5А
105064
Москва
Российская Федерация

1.2.3 Emergency contact information 8-800-700-30-78.
1.2.4 FAX None
1.2.5 E-mail lifesc_support_RCIS@bio-rad.com

2. Hazard(s) identification

2.1 Classification of the substance or mixture

GHS Classification

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

2.2 GHS Label elements, including precautionary statements

2.2.1

2.2.2 Hazard symbols

2.2.3 Hazard statements

PBT and vPvB assessment

No information available.

Chemical name	PBT and vPvB assessment
Trade secret	The substance is not PBT / vPvB
Trade secret	PBT assessment does not apply
Trade secret	The substance is not PBT / vPvB

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

2.3 Other hazards

Not applicable.

3. Composition/information on ingredients**3.1 General product information**

3.1.1 Chemical name (according to IUPAC)

3.1.2 Chemical formula

3.1.3 General characteristics of the product
(including brand and product range; production method)**3.2 Mixture**

(name, CAS and EC numbers, mass fractions (totaling 100%), MAC (Maximum Available Concentrations) or TSEL (Tentative Safe Exposure Level), hazard classifications and references to the sources of data)

		Occupational exposure limits			
Chemical name	Weight-%	MAC, mg/m ³	Hazard class	CAS No	EC No (EU Index No)
Water	98.863			7732-18-5	231-791-2
Trade secret	0 - 10%	5	3		Listed
Trade secret	0 - 10%	10	4		Listed
Trade secret	0 - 10%				Listed
Trade secret	0 - 10%				Listed

4. First-aid measures**4.1 Symptoms**

4.1.1

In case of inhalation poisoning (inhalation)

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

4.1.2

Skin contact

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

4.1.3

Eye contact

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

4.1.4

Ingestion

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

4.2 Description of necessary first aid measures

4.2.1

Inhalation

Remove to fresh air.

4.2.2

Skin contact

In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.

4.2.3

Eye contact

Rinse thoroughly with plenty of water for at least 15

4.2.4 Ingestion	minutes, lifting lower and upper eyelids. Consult a physician.
4.2.5 Contraindications	Clean mouth with water and drink afterwards plenty of water.
	Treat symptomatically. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

5.1 General description of fire and explosion hazards (according to GOST 12.1.044-89)	No information available.
5.2 Indicators of fire and explosion hazards	Flammability group: No information available.
Flash point	Not applicable
Minimum Ignition Temperature (°C)	Not applicable
Autoignition temperature	Not applicable
Lower and upper explosion limit/flammability limit	Concentration limit (%): Not applicable
SADT (self-accelerating decomposition temperature)	Temperature range: Not applicable
Smoke production	Not applicable
Polymer combustion product toxicity index	Not applicable
Maximum Pressure Rise (bar)	Not applicable
Maximum Rate of Pressure Rise (bar/sec)	Not applicable
5.3 Combustion and/or thermal decomposition products and their hazards	No information available.
5.4 Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.5 Unsuitable extinguishing media	No information available.
5.6 Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
5.7 Advice for firefighters	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

6. Accidental release measures

6.1 Measures to prevent harm to people, property and the environment in case of an accident or an emergency

6.1.1

Personal precautions, protective equipment and emergency procedures

See section 8 for more information.

6.1.2

Personal Protective Equipment for emergency situations (PPE for first responders)

Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

6.2 Procedures for dealing with accidents and emergencies

6.2.1

Actions in case of leaks and spills (including measures for containment and clean-up, and to ensure protection of the environment)

Pick up and transfer to properly labeled containers. Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information. Clean contaminated objects and areas thoroughly observing environmental regulations.

6.2.2

Actions in case of fire

Evacuate area and fight fire from a safe distance.

7. Handling and storage

7.1 Precautions for safe handling

7.1.1

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

7.1.2

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Ensure control measures are regularly inspected and maintained. Prevent leaks and prevent soil / water pollution caused by leaks.

7.1.3

Recommendations for safe movement and transportation

See section 14 for more information:

Transport in accordance with the rules for the carriage of goods in force for each mode of transport. Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1

Storage Conditions

Store according to product and label instructions. Metals.

Incompatible materials

7.2.2

Packaging materials No information available.

7.3

Safety measures for household use and storage Not intended for household use.

8. Exposure controls/personal protection

8.1

Control parameters

Chemical name	Type	MAC, mg/m ³	Remarks
Trade secret	MAC	5	Aerosol
Trade secret	MAC	10	Aerosol

8.2

Appropriate engineering controls Provide adequate ventilation. When not in use, keep containers tightly closed.

8.3 Personal protective equipment

8.3.1

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

8.3.2

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.

8.3.3

Personal protection equipment

Skin and body protection:

No special protective equipment required.

Hand protection:

No special protective equipment required.

Eye/face protection:

No special protective equipment required.

8.3.4

Personal protective equipment for household use Not intended for household use.

9. Physical and chemical properties

9.1 Physical state

(aggregate state, color, odor)

Liquid

Appearance: aqueous solution

Color: colorless

Odor: Odorless

9.2 Information on basic physical and chemical properties

(transition temperatures, pH, solubility, Log Kow (coefficient of n-Octanol/water) and other parameters specific to the type of product)

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.4	
Melting point / freezing point	0 °C	
Initial boiling point and boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known

Flammability	No data available	None known
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Solubility(ies)		
Water solubility	No data available	Miscible in water
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Viscosity		
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
<u>Other information</u>		
Oxidizing properties	Not applicable	
Explosive properties	Not applicable	
Softening point	Not applicable	

10. Stability and reactivity

10.1

Chemical stability	Stable under normal conditions.
Sensitivity to mechanical impact:	None.
Sensitivity to static discharge:	None.
Hazardous decomposition products:	None under normal use conditions.

10.2

Reactivity	No information available.
Possibility of hazardous reactions:	Avoid contact with metals. This product contains sodium azide. Sodium azide can react with copper, brass, lead, and solder in piping systems to form explosive compounds and toxic gases.

10.3

Conditions to avoid	None known.
Incompatible materials:	Metals.

11. Toxicological information

11.1

General characteristics of exposure (assessment of health hazard (toxicity) and typical symptoms of exposure)	None known.
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11.2 Information on the likely routes of exposure

In case of inhalation poisoning (inhalation)	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.

Ingestion	Specific test data for the substance or mixture is not available.
11.3 Target organs, tissues and biological systems	No information available.
11.4 Information on hazard of direct contact with the product, as well as the consequences of such contact (e.g. irritation of upper respiratory tract, eyes or skin; skin-absorption and sensitizing actions)	The information presented below only applies to the material as supplied.
Skin corrosion/irritation:	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation:	Based on available data, the classification criteria are not met.
Respiratory or skin sensitization:	Based on available data, the classification criteria are not met.
11.5 Information on long-term effects of exposure (e.g. reproductive toxicity, carcinogenicity, mutagenicity, cumulative and other chronic effects)	The information presented below only applies to the material as supplied.
Germ cell mutagenicity:	Based on available data, the classification criteria are not met
Carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
STOT - single exposure:	Based on available data, the classification criteria are not met.
Aspiration hazard:	Based on available data, the classification criteria are not met.
11.6 Acute toxicity data (LD50 with route of exposure and animal species; LC50 with exposure time (h)	

and animal species)

Component Information

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
Trade secret	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit)	0.054 - 0.52 mg/L (Rat) 4 h

12. Ecological information

12.1

General description of the effects on the environment (atmospheric air, water, soil, including symptoms of exposure)

Environment, air: Air emission controls are not applicable as there is no direct release to air.

Environment, water: Negligible wastewater emissions as process operates without water contact.

Environment, soil: Soil emission controls are not applicable as there is no direct release to soil. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level continual releases.

12.2

Possible routes of release to the environment

Violation of the rules on storage and transportation of products. This product could affect the environment if incorrectly stored and transported, the waste is incinerated, it is discharged into bodies of water, or if there is an accident or emergency. Chemical Incidents.

12.3 Most important characteristics of the environmental impact

12.3.1

Hygienic standards (allowable concentrations in atmospheric air, water, including fishery waters, soils)

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Trade secret -	MAC _{atm} : 0.5 0.15 TSEL _{atm} : 0.15 res Hazard class 3	Not established	Not established	Not established

Chemical name	MAC or TSEL of atmospheric air, mg/m ³ (LHI ¹ , hazard class)	MAC water ² or AAL water, mg/l, (LHI, hazard class)	MAC or TAL of fishery waters ³ , mg/l (LHI, hazard class)	MAC or AAC of soil, mg/kg (LHI)
Trade secret -	Not established	AALwater: 3.5 san Hazard class 3	MACfish: 0.05 0.15 0.2	Not established

1 - LHI – Limiting Hazard Indicator (tox. – toxicological; s.-t. (san.-tox.) – sanitary-toxicological; org. – organoleptic with indication of the nature of changes regarding organoleptic properties of water; sm. – changes the smell of the water; turb. – increases turbidity; col. – gives color to water; foam – causes foaming; film – forms a film on the water surface; taste. – gives the taste to water; opa. – causes opalescence); refl. – reflexive; res.. – resorptive; refl.-res. – reflexive-resorptive; fishery – fishery (changes in commercial quality of aquatic organisms); san. –general-sanitary)

2 - Bodies of water used for drinking and household use

3 - Bodies of water with fishery significance (including sea waters)

12.3.2

Ecotoxicity data (LC50, EC50, NOEC for fish, *Daphnia magna*, algae and other)

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>)
Trade secret	-	LC50: =0.8mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.7mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =5.46mg/L (96h, <i>Pimephales promelas</i>)	-

12.3.3

Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis, etc.) Persistence and degradability: No information available. Bioaccumulation: No information available. Mobility in soil: No information available. Mobility: No information available.

13. Disposal considerations

13.1

Safety precautions when handling waste arising from use, storage and transportation Ensure waste is collected and contained.

13.2

Information about the places and methods of decontamination, recycling or disposal of waste, including packaging material

Waste from residues/unused products:

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Flush pipes with water frequently if discarding solutions containing sodium azide into metal piping systems.

13.3

Recommendations regarding disposal of waste generated when products are used in household applications

Not intended for household use.

14. Transport information

14.1 UN Number (according to the UN Recommendations on the Transport of Dangerous Goods)

14.2 Proper shipping name

14.3 Appropriate transportation methods

May be transported by all modes of transport in accordance with the rules of transport for dangerous goods effective for the transport of each type.

14.4 Classification of dangerous goods according to GOST 19433-88

14.5 Classification of dangerous goods according to the UN Recommendations on the Transport of Dangerous Goods

14.6 Transport labeling (symbols according to GOST 14192-96)

14.7 Emergency cards (for transportation by rail, sea and other ways)

IMDG EmS-No:

None

IATA ERG Code:

None

Special precautions for user

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

Marine transport (IMDG) Special Provisions

None

15. Regulatory information

15.1 National regulations

15.1.1 Laws of the Russian Federation	Federal law "On the sanitary-epidemiological welfare of the population" Federal law "On technical regulation" Federal law "On production and consumption wastes" Federal law "On industrial safety of hazardous industrial objects" Federal law "On Environmental Protection" Federal law "On the protection of atmospheric air" Federal law "On Fire Safety" The Law of the Russian Federation "On Standardization" "Law on Consumer Protection"
15.1.2 Information about the documents regulating the requirements for protection of people and the environment	None
15.2 International conventions and agreements (e.g. whether the product is regulated by the Montreal Protocol, the Stockholm Convention and others)	
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

16. Other information

16.1 Safety Passport Revision Information (for example, "First issue" or "SP has been reissued due to expiration of the original SP. The prior SP No... ." or "Changes have been made to the following sections... revision date...")

Revision date	17-May-2023
Revision Number	1.1
Revision Note	Reformatted and updated existing information

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

This safety data sheet was created pursuant to the requirements of: The Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Technical Regulation "On Safety of Chemical Products", GOST 30333, GOST 31340, GOST 19433, GOST 14192, GOST 32419, GOST 32421, GOST 32423, GOST 32424, GOST 32425, R 50.1.102, R 50.1.101.

Hazardous Substance Database:

- Agency for Toxic Substances and Disease Registry (ATSDR) - Agency for Toxic Substances and Disease Registry (ATSDR)
- CHEMVIEW not translate code - U.S. Environmental Protection Agency ChemView Database
- EFSA not translate code - European Food Safety Authority (EFSA)
- EPA not translate code - EPA (Environmental Protection Agency)
- EPA_AEGL not translate code - Acute Exposure Guideline Level(s) (AEGL(s))

EPA_FIFRA not translate code - U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

EPA_HPVS not translate code - U.S. Environmental Protection Agency High Production Volume Chemicals

FOOD_JOURN not translate code - Food Research Journal

HSDB not translate code - Hazardous Substance Database

IUCLID not translate code - International Uniform Chemical Information Database (IUCLID)

JAPAN_GHS not translate code - Japan GHS Classification

NICNAS not translate code - Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH not translate code - NIOSH (National Institute for Occupational Safety and Health)

NLM_CIP not translate code - National Library of Medicine's ChemID Plus (NLM CIP)

NLM_PUBMED not translate code - National Library of Medicine's PubMed database (NLM PUBMED)

NTP not translate code - National Toxicology Program (NTP)

NZ_CCID not translate code - New Zealand's Chemical Classification and Information Database (CCID)

OECD_EHSP not translate code - Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

OECD_HPVS not translate code - Organization for Economic Co-operation and Development High Production Volume Chemicals Program

OECD_SIDS not translate code - Organization for Economic Co-operation and Development Screening Information Data Set

WHO not translate code - World Health Organization

4 The item numbers of the data sources are given in each paragraph of the SDS as links

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