

SAFETY DATA SHEET

This safety data sheet complies with the requirements of: SS586: 2008 (2014)

Revision date 24-May-2023 **Revision Number** 2

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

Product identifier

Product Name ProteoOn Lipid Modification Solution

Other means of identification

1762365 Catalogue Number(s)

Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Uses advised against No information available

Details of the supplier of the safety data sheet

Corporate Headquarters Manufacturer **Legal Entity / Contact Address** Bio-Rad Laboratoires (Singapore) PTE LTD

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24 Hour Emergency Phone Number CHEMTREC Singapore: 65-31581349

SECTION 2: Hazards identification

GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS): SS586: 2008 (2014)

Label elements

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS): SS586: 2008 (2014)

Other hazards which do not result in classification

SECTION 3: Composition/information on ingredients

Substance

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Not applicable

Mixture

Chemical name	EC No (EU Index No)	CAS No	Weight-%
Water	231-791-2	7732-18-5	50 - 100
Dimethyl sulfoxide	200-664-3	67-68-5	1 - 2.5
4-Morpholineethanesulfonic	-	145224-94-8	0.1 - 0.299
acid, monohydrate			
Undecylamine	230-761-6	7307-55-3	0.01 - 0.099

SECTION 4: First aid measures

Description of first aid measures

General advice No hazards which require special first aid measures.

Inhalation Remove to fresh air.

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

Consult a doctor.

Skin contact In the case of skin irritation or allergic reactions see a doctor. Wash skin with soap and

water.

Ingestion Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

For emergency responders

Self-protection of the first aider No information available.

Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

SECTION 5: Firefighting measures

Suitable Extinguishing Media

surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the None

chemical

None known.

Special protective actions for fire-fighters

Special protective equipment and Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

precautions for fire-fighters Use personal protection equipment.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

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

Methods and material for containment and cleaning up

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

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

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

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

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

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. **Storage Conditions**

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational exposure limits This product, as supplied, does not contain any hazardous materials with occupational

exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits

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

regulatory bodies

Appropriate engineering controls

Engineering controls Showers

> **Eyewash stations** Ventilation systems.

Individual protection measures, such as personal protective equipment

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

Skin and body protection Wear suitable protective clothing.

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Hand protection Wear suitable gloves.

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

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

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Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid

Appearance aqueous solution
Colour colourless
Odour Odourless.

Odour threshold No information available

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

pH 6

Melting point / freezing point No data available None known

Boiling point / boiling range 100 °C

Flash point No data available None known Evaporation rate No data available None known Flammability (solid, gas) No data available None known Flammability Limit in Air None known

Upper flammability or explosive No data available

limits

Lower flammability or explosive No data available

limits

Vapour pressureNo data availableNone knownVapour densityNo data availableNone knownRelative densityNo data availableNone known

Water solubility Miscible in water

Solubility(ies) No data available None known Partition coefficient No data available None known Autoignition temperature No data available None known Decomposition temperature None known Kinematic viscosity No data available None known

Dynamic viscosity

No data available

None known

None known

Other information No information available

SECTION 10: Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

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

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid

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Conditions to avoid None known based on information supplied.

Incompatible materials

Incompatible materialsNone known based on information supplied.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

Information on likely routes of exposure

Product Information

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

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

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

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

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

 ATEmix (oral)
 1,204,719.20

 ATEmix (dermal)
 3,323,363.20

Component Information

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Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)		
Dimethyl sulfoxide	= 28300 mg/kg (Rat)	= 40000 mg/kg (Rat)	> 5.33 mg/L (Rat)4 h

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

Skin corrosion/irritation

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

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

Aspiration hazard Classification not possible.

SECTION 12: Ecological information

Ecotoxicity

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

Contains 0 % of components with unknown hazards to the aquatic environment Unknown aquatic toxicity

Chemical name	Algae/aquatic plants	Fish	Crustacea
Dimethyl sulfoxide	-	LC50: =34000mg/L (96h,	-
		Pimephales promelas)	
		LC50: 33 - 37g/L (96h,	
		Oncorhynchus mykiss)	
		LC50: >40g/L (96h, Lepomis	
		macrochirus)	
		LC50: =41.7g/L (96h, Cyprinus	
		carpio)	
Undecylamine	-	LC50: =0.21mg/L (96h,	-
		Pimephales promelas)	

Persistence and degradability

No information available. Persistence and degradability

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
Dimethyl sulfoxide	-1.35

Mobility

Mobility in soil No information available.

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Dimethyl sulfoxide	The substance is not PBT / vPvB

Other adverse effects

No information available Other adverse effects

SECTION 13: Disposal considerations

Waste treatment methods

Waste from residues/unused products

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

with local regulations.

Do not reuse empty containers. Contaminated packaging

SECTION 14: Transport information

IMDG Not regulated

No information available Transport in bulk according to

Annex II of MARPOL and the IBC

Code

Not regulated IATA

SECTION 15: Regulatory information

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

Singapore

Environmental Public Health Act

Dispose of waste product or used containers according to local regulations.

Hazardous Waste (Control of Export, Import and Transit) Act

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Poison

Verify that licence requirements are met Verify that requirements related to using, handling, and storing substances subject to prohibition, authorisation or restriction are met

Chemical name	Poison	Poison Schedule Number
Dimethyl sulfoxide	X	First schedule
		Third schedule

Workplace Safety and Health Act

Comply with the health and safety at work laws.

International Regulations

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

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

Contact supplier for inventory compliance status

SECTION 16: Other information

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA (time-weighted average) TWA STEL STEL (Short Term Exposure Limit)

Maximum limit value Skin designation Ceiling

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

Agency for Toxic Substances and Disease Registry (ATSDR) U.S. Environmental Protection Agency ChemView Database

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European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

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

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

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

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

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

National Toxicology Program (NTP)

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

Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme

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

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

Label elements

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Revision Note Significant changes throughout SDS. Review all sections.

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Disclaimer

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End of Safety Data Sheet