KIT SAFETY DATA SHEET



Kit Product Name MAGIC RED CASPASE-3/7 KIT

Kit Catalogue Number(s) ICT935

Revision date 26-Jan-2022

Kit Contents

Catalogue Number(s)	Product Name	
	HOECHST STAIN - #10476	
	ACRIDINE ORANGE STAIN - #10478	
	Z[Asp(OMe)-Glu(OMe)-Val-Asp(OMe)]2 MR - #20262	

KITS / BE Page 1/25



SAFETY DATA SHEET

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

Revision date 17-Nov-2021 **Revision Number** 2

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

Product identifier

HOECHST STAIN - #10476 **Product Name**

Other means of identification

Safety data sheet number 10476

CAS No 7732-18-5

Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended use For research use only

No information available Uses advised against

Details of the supplier of the safety data sheet

Corporate Headquarters Manufacturer

Bio-Rad Laboratories Inc. Bio-Rad 1000 Alfred Nobel Drive **Endeavour House** Hercules, CA 94547 Langford Business Park

USA

Oxford OX5 1GE

United Kingdom e-mail:

Kidlington

antibody_safetydatasheets@bio-rad.com

For further information, please contact

+66 2 652 8313 **Technical Service**

ctsthailand@bio-rad.com

Emergency telephone number

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

Legal Entity / Contact Address

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

Pathumwan, Bangkok 10330

Thailand

Revision date 17-Nov-2021

SECTION 3: Composition/information on ingredients

Substance

Not applicable

CAS No 7732-18-5

Mixture

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

Non-hazardous Proprietary Balance

ingredients

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 physician.

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

physician.

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 aiderNo information available.

Indication of any immediate medical attention and special treatment needed

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 known.

chemical

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters

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

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautionsSee Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

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

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

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

Reference to other sectionsSee 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

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

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

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

Skin and body protectionWear suitable protective clothing.

Hand protection Wear suitable gloves.

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

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid

Appearance Clear to semi-clear

Colour Varies

Odour No information available.
Odour threshold No information available

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

pН None known Melting point / freezing point No data available None known Boiling point / boiling range No data available None known Flash point No data available None known No data available **Evaporation rate** None known Flammability (solid, gas) No data available None known Flammability Limit in Air None known

No data available

No data available

No data available

Upper flammability or explosive

limits

Lower flammability or explosive No data available

limits

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

Water solubility Soluble in water

Solubility(ies)

Partition coefficient
Autoignition temperature

Decomposition temperature

No data available
No data available
No data available

None known None known None known

None known

None known

None known

Other information No information available

SECTION 10: Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Kinematic viscosity

Dynamic viscosity

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

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

.

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

Oral LD50

Dermal LD50

Inhalation LC50

Inhalation LC50

No information available
No information available
No information available
No information available

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

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

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

Skin corrosion/irritation

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

Serious eye damage/eye irritation

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

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

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

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

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

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

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 Classification not possible.

SECTION 12: Ecological information

STOT - repeated exposure

Ecotoxicity

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

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

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation No information available.

Mobility

Mobility in soil No information available.

PBT and vPvB assessment No information available

Other adverse effects

Other adverse effects No information available

SECTION 13: Disposal considerations

Waste treatment methods

Waste from residues/unused

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

environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

ADR Not regulated

IMDG Not regulated

Transport in bulk according to No information available

Annex II of MARPOL and the IBC

Code

products

IATA Not regulated

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

Revision date 17-Nov-2021

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

None Listed

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

Ceiling Maximum limit value * Skin designation

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

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

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

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

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

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

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

National Toxicology Program (NTP)

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

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

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

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

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

Label elements

Issuing Date Bio-Rad Laboratories, Environmental Health and Safety

Revision date 17-Nov-2021

Revision Note Significant changes throughout SDS. Review all sections.

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

Disclaimer

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

End of Safety Data Sheet



SAFETY DATA SHEET

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

Revision date 18-Jan-2022 Revision Number 1

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

Product identifier

ACRIDINE ORANGE STAIN - #10478 **Product Name**

Other means of identification

Safety data sheet number 10478

CAS No 7732-18-5

Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended use For research use only

No information available Uses advised against

Details of the supplier of the safety data sheet

Corporate Headquarters Manufacturer Bio-Rad Laboratories Inc. Bio-Rad

1000 Alfred Nobel Drive **Endeavour House** Hercules, CA 94547 Langford Business Park

USA Kidlington Oxford OX5 1GE

United Kingdom e-mail:

antibody_safetydatasheets@bio-rad.com

For further information, please contact

+66 2 652 8313 **Technical Service**

ctsthailand@bio-rad.com

Emergency telephone number

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

Legal Entity / Contact Address

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

Thailand

SECTION 3: Composition/information on ingredients

Substance

Not applicable

CAS No 7732-18-5

Mixture

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

Non-hazardous Proprietary Balance

ingredients

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 physician.

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

physician.

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 aiderNo information available.

Indication of any immediate medical attention and special treatment needed

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 known.

chemical

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters

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

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

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

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

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

Reference to other sectionsSee 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

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

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

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

Skin and body protectionWear suitable protective clothing.

Hand protection Wear suitable gloves.

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

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical stateLiquidAppearanceLiquidColourVaries

Odour No information available.
Odour threshold No information available

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

pН None known Melting point / freezing point No data available None known Boiling point / boiling range No data available None known Flash point No data available None known No data available **Evaporation rate** 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

No data available

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

Kinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone 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

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

.

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

Oral LD50No information availableDermal LD50No information availableInhalation LC50No information availableInhalation LC50No information available

Chemical na	ame Oral l	_D50 Dermal LD5	50 Inhalation LC50
Water	> 90 mL/k	g (Rat)	

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.

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

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

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

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

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

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

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

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

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

STOT - repeated exposureBased 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.

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

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation No information available.

Mobility

Mobility in soil No information available.

PBT and vPvB assessment No information available

Other adverse effects

Other adverse effects No information available

SECTION 13: Disposal considerations

Waste treatment methods

Waste from residues/unused

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

environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

ADR Not regulated

IMDG Not regulated

Transport in bulk according to No information available

Annex II of MARPOL and the IBC

Code

products

IATA Not regulated

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

None Listed

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

Ceiling Maximum limit value * Skin designation

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

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

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

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

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

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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

Issuing Date Bio-Rad Laboratories, Environmental Health and Safety

Revision date 18-Jan-2022

Revision Note Significant changes throughout SDS. Review all sections.

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

Disclaimer

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

End of Safety Data Sheet



SAFETY DATA SHEET

This safety data sheet complies with the requirements of: \$\$586: 2008 (2014)

Legal Entity / Contact Address

239/2. Raidamri Road. Lumpini.

Pathumwan, Bangkok 10330

1st and 2nd Floor, Lumpini 1 Building

Bio-Rad Laboratories Ltd.

Thailand

Revision date 18-Jan-2022 Revision Number 1

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

Product identifier

Product Name Z[Asp(OMe)-Glu(OMe)-Val-Asp(OMe)]2 MR - #20262

Other means of identification

Safety data sheet number 20262

Synonyms MAGIC RED (DEVD)2

Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended use For research use only

Uses advised against No information available

Details of the supplier of the safety data sheet

Corporate HeadquartersManufacturerBio-Rad Laboratories Inc.Bio-Rad

1000 Alfred Nobel Drive Endeavour House
Hercules, CA 94547 Langford Business Park

USA Kidlington
Oxford
OX5 1GE

OX5 1GE United Kingdom

e-mail:

antibody_safetydatasheets@bio-rad.com

For further information, please contact

Technical Service +66 2 652 8313

ctsthailand@bio-rad.com

Emergency telephone number

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)

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Revision date 18-Jan-2022

Other hazards which do not result in classification

SECTION 3: Composition/information on ingredients

Substance

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

MAGIC RED (DEVD)2 **Synonyms**

Non-hazardous Proprietary Balance

ingredients

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.

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

Consult a physician.

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

physician.

Rinse mouth thoroughly with water. Ingestion

Most important symptoms and effects, both acute and delayed

No information available. **Symptoms**

For emergency responders

Self-protection of the first aider No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

Suitable Extinguishing Media

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

surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

None known. Specific hazards arising from the

chemical

Special protective actions for fire-fighters

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

Revision date 18-Jan-2022

precautions for fire-fighters gear. 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

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

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

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

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

Reference to other sectionsSee 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

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

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

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

Skin and body protection Wear suitable protective clothing.

Hand protection Wear suitable gloves.

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

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Powder

Appearance powder or cake, lyophilised

Colour Varies

OdourNo information available.Odour thresholdNo information available

Property Values Remarks • Method

pН None known No data available Melting point / freezing point None known Boiling point / boiling range No data available None known Flash point No data available None known No data available **Evaporation rate** 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 Soluble in water

Solubility(ies)No data availableNone knownPartition coefficientNo data availableNone knownAutoignition temperatureNo data availableNone knownDecomposition temperatureNone known

Kinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone 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

Conditions to avoidNone 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

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

No information available

Oral LD50

Dermal LD50

Inhalation LC50

Inhalation LC50

No information available
No information available
No information available
No information available

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

Skin corrosion/irritationBased 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.

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

STOT - single exposureBased on available data, the classification criteria are not met.

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

Aspiration hazard Classification not possible.

SECTION 12: Ecological information

Ecotoxicity

EcotoxicityThe environmental impact of this product has not been fully investigated.

Revision date 18-Jan-2022

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

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation No information available.

Mobility

Mobility in soil No information available.

PBT and vPvB assessment No information available

Other adverse effects

Other adverse effects No information available

SECTION 13: Disposal considerations

Waste treatment methods

Waste from residues/unused

products

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

environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

ADR Not regulated

IMDG Not regulated

Transport in bulk according to No information available

Annex II of MARPOL and the IBC

Code

IATA Not regulated

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

None Listed

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

Ceiling Maximum limit value * Skin designation

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

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

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

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

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

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

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

National Toxicology Program (NTP)

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

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

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

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

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

Label elements

Issuing Date Bio-Rad Laboratories, Environmental Health and Safety

Revision date 18-Jan-2022

Revision Note Significant changes throughout SDS. Review all sections.

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

Disclaime

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

specified in the text.

End of Safety Data Sheet