

# KIT SAFETY DATA SHEET



Kit Product Name UMETS by HPLC

Kit Catalogue Number(s) 1956068

Revision date 30-Aug-2021

## Kit Contents

Catalogue Number(s)	Product Name
1956076	UMETS by HPLC Mobile Phase
1956021	UCAT/UMET Urine Calibrator/Urine Std
1956047	UMETS by HPLC Internal Standard
1956018	UMETS Anion Exchange Columns
1956038	UCAT/UMET by HPLC Basic Reagent
1956037	UCAT/UMET Acidic Reagent
1956039	UCAT/UMET/VMA by HPLC Reconstitution Reagent
1956046	UMETS by HPLC Hydrolysis Reagent
1956043	UMETS by HPLC Dilution Reagent
1956044	UMETS by HPLC Transfer Buffer
1956045	UMETS by HPLC Elution Reagent
1956012	HPLC Cation Exchange Columns
1956035	UCAT/PCAT by HPLC Internal Standard



# SAFETY DATA SHEET

Revision date 27-Aug-2021

Revision Number 2.1

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

### Product identifier

**Product Name** UMETS by HPLC Mobile Phase

**Catalogue Number(s)** 1956076

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Albany Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

Not classified

### Label elements

### **Hazard statements**

### Other hazards which do not result in classification

## SECTION 3: Composition/information on ingredients

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Isopropyl alcohol	67-63-0	5 - 10
Diammonium phosphate	7783-28-0	0.3 - 0.999
Citric acid	77-92-9	0.1 - 0.299
Phosphoric acid	7664-38-2	0.01 - 0.099

Non-hazardous ingredients	Proprietary	Balance
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## 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	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.
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### Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.
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## SECTION 5: Firefighting measures

### Suitable Extinguishing Media

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

Specific hazards arising from the chemical	None known.
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### Special protective actions for fire-fighters

Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal precautions	See section 8 for more information.
For emergency responders	Use personal protection recommended in Section 8.

### Environmental precautions

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

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

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

**Precautions to prevent secondary hazards**

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

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

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

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

**Storage Conditions** Store according to product and label instructions.

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

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

**Control parameters**

**Exposure Limits**

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Isopropyl alcohol 67-63-0	TWA: 400 ppm TWA: 983 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1230 mg/m <sup>3</sup>	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 999 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1250 mg/m <sup>3</sup>	400 ppm 983 mg/m <sup>3</sup> 500 ppm STEL 1230 mg/m <sup>3</sup> STEL
Phosphoric acid 7664-38-2	TWA: 1 mg/m <sup>3</sup>	STEL: 3 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>	1 mg/m <sup>3</sup> 3 mg/m <sup>3</sup> STEL

**Biological occupational exposure limits**

Chemical name	New Zealand	ACGIH
Isopropyl alcohol 67-63-0	-	40 mg/L - urine (Acetone) - end of shift at end of workweek

**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).

**Hand protection** Wear suitable gloves.

**Skin and body protection** Wear suitable protective clothing.

**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.

**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	No information available
Odour	Odourless.
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	5.5	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	93 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<u>Other information</u>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

## 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

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

**Conditions to avoid**

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

**Incompatible materials**

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

**Hazardous decomposition products**

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

## SECTION 11: Toxicological information

**Acute toxicity****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** No information available.

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

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

ATEmix (oral) 33,530.60 mg/kg  
 ATEmix (dermal) 72,781.10 mg/kg  
 ATEmix (inhalation-dust/mist) 1,301.7751 mg/l

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Isopropyl alcohol	= 1870 mg/kg ( Rat )	= 4059 mg/kg ( Rabbit )	= 72600 mg/m <sup>3</sup> ( Rat ) 4 h
Diammonium phosphate	> 2000 mg/kg ( Rat )	> 5000 mg/kg ( Rabbit )	-
Citric acid	= 3 g/kg ( Rat ) = 3000 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	-
Phosphoric acid	= 1530 mg/kg ( Rat )	= 2740 mg/kg ( Rabbit )	> 850 mg/m <sup>3</sup> ( Rat ) 1 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.

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

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

**Carcinogenicity**

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

Chemical name	New Zealand	IARC
Isopropyl alcohol - 67-63-0	-	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.

**Respiratory irritation**

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

**Narcotic effects**

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

**STOT - repeated exposure**

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

**Aspiration hazard**

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

**SECTION 12: Ecological information****Ecotoxicity****Ecotoxicity****Aquatic ecotoxicity****Unknown aquatic toxicity**

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

Chemical name	Algae/aquatic plants	Fish	Crustacea
Isopropyl alcohol	EC50: >1000mg/L (72h, <i>Desmodesmus subspicatus</i> ) EC50: >1000mg/L (96h, <i>Desmodesmus subspicatus</i> )	LC50: =11130mg/L (96h, <i>Pimephales promelas</i> ) LC50: =9640mg/L (96h, <i>Pimephales promelas</i> ) LC50: >1400000µg/L (96h, <i>Lepomis macrochirus</i> )	EC50: =13299mg/L (48h, <i>Daphnia magna</i> )
Diammonium phosphate	-	LC50: 24.8 - 29.4mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: =26.5mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: =3.3mg/L (96h, <i>Pimephales promelas</i> ) LC50: =33mg/L (96h, <i>Pimephales promelas</i> )	-
Citric acid	-	LC50: =1516mg/L (96h, <i>Lepomis macrochirus</i> )	EC50: =120mg/L (72h, <i>Daphnia magna</i> )
Phosphoric acid	-	LC50: 3 - 3.5mg/L (96h, <i>Gambusia affinis</i> )	EC50: =4.6mg/L (12h, <i>Daphnia magna</i> )

**Terrestrial ecotoxicity**

There is no data for this product.

**Persistence and degradability**

No information available.

**Bioaccumulative potential****Bioaccumulation**

There is no data for this product.

Chemical name	Partition coefficient
Isopropyl alcohol	0.05
Citric acid	-1.72

**Mobility in soil**

**Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****Waste treatment methods****Contaminated packaging**

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

**SECTION 14: Transport information****IATA** Not regulated**IMDG** Not regulated**Transport in bulk according to Annex II of MARPOL and the IBC Code**

No information available

**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Isopropyl alcohol - 67-63-0	3.1B,6.1E (All),6.1E (O),6.3B,6.4A 3.1B,6.3B,6.4A 3.1C,6.3B,6.4A
Diammonium phosphate - 7783-28-0	6.1E (All),6.1E (I),6.1E (O),6.3A,6.4A,9.1D (All),9.1D (A),9.1D (C),9.1D (F) 6.1E (All),6.1E (I),6.1E (O),6.3A,6.4A,9.1D (All),9.1D (C) 6.3A,6.4A,9.1D (All),9.1D (A),9.1D (C),9.1D (F) 6.3A,6.4A
Citric acid - 77-92-9	6.1E (All),6.1E (I),6.3B,8.3A 6.3B,8.3A 8.3A 6.4A
Phosphoric acid - 7664-38-2	6.1D (All),6.1D (O),6.1E (D),8.1A,8.2C,8.3A,9.1D (All),9.1D (Oth),9.3C 6.1E (All),6.1E (O),6.3A,6.4A,8.1A,9.1D (All),9.1D (Oth)

**National regulations**

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license**

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A,



**requirements** B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information  
Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information  
Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

#### **Legend:**

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

### **SECTION 16: Other information**

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

**Revision date** 27-Aug-2021

**Revision Note** Significant changes throughout SDS. Review all sections.

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

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

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

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

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

**Disclaimer**

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** UCAT/UMET Urine Calibrator/Urine Std

**Catalogue Number(s)** 1956021

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Albany Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

Not classified

### Label elements

### **Hazard statements**

### Other hazards which do not result in classification

Contains components derived from human urine

## SECTION 3: Composition/information on ingredients

Chemical name	CAS No	Weight-%
Non-hazardous ingredients	Proprietary	Balance

## SECTION 4: First aid measures

**Description of first aid measures**

<b>General advice</b>	Contains components derived from human urine.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Call a doctor.

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

<b>Symptoms</b>	No information available.
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**Indication of any immediate medical attention and special treatment needed**

<b>Note to doctors</b>	Contains human source material and / or potentially infectious components.
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**SECTION 5: Firefighting measures****Suitable Extinguishing Media**

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

<b>Specific hazards arising from the chemical</b>	None known.
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**Special protective actions for fire-fighters**

<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	See section 8 for more information.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.

**Environmental precautions**

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

<b>Methods for containment</b>	Do not allow into any sewer, on the ground or into any body of water.
<b>Methods for cleaning up</b>	Clean contaminated surface thoroughly. Use: Disinfectant.

**Precautions to prevent secondary hazards**

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

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

### Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

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

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Store according to product and label instructions.

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

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

### Control parameters

**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).

**Hand protection** Wear suitable gloves.

**Skin and body protection** Wear suitable protective clothing.

**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.

**Environmental exposure controls** No information available.

## **SECTION 9: Physical and chemical properties**

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	solid
<b>Colour</b>	light yellow
<b>Odour</b>	Characteristic.
<b>Odour threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		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
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Insoluble 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
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<u>Other information</u>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

## 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

Possibility of hazardous reactions None under normal processing.

### Conditions to avoid

Conditions to avoid None known based on information supplied.

### Incompatible materials

Incompatible materials None known based on information supplied.

### Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

## SECTION 11: Toxicological information

**Acute toxicity****Information on likely routes of exposure****Product Information**

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

**Acute toxicity****Numerical measures of toxicity****Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Respiratory irritation</b>	Based on available data, the classification criteria are not met.
<b>Narcotic effects</b>	Based on available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

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

<b>Ecotoxicity</b>	The environmental impact of this product has not been fully investigated.
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**Aquatic ecotoxicity**

<b>Unknown aquatic toxicity</b>	0.001 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.
<b>Terrestrial ecotoxicity</b>	There is no data for this product.
<b>Persistence and degradability</b>	No information available.

**Bioaccumulative potential****Bioaccumulation** No information available.**Mobility in soil****Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****Waste treatment methods****Contaminated packaging**

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

**SECTION 14: Transport information****IATA** Not regulated**IMDG** Not regulated**Transport in bulk according to Annex II of MARPOL and the IBC Code**

No information available

**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****New Zealand****National regulations**

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard**

Not applicable



**International Inventories**

Contact supplier for inventory compliance status

**Legend:****International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**SECTION 16: Other information****Prepared By** Bio-Rad Laboratories, Environmental Health and Safety**Revision date** 27-Aug-2021**Revision Note** Significant changes throughout SDS. Review all sections.**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend** Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

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

**Disclaimer**

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** UMETS by HPLC Internal Standard

**Catalogue Number(s)** 1956047

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

<b>Skin corrosion/irritation</b>	Category 1 (HSNO - 8.2A)
<b>Serious eye damage/eye irritation</b>	Category 1 (HSNO - 8.3A)

### Label elements



**Signal word**  
Danger

### **Hazard statements**

H314 - Causes severe skin burns and eye damage

### **Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapours/spray  
Wash face, hands and any exposed skin thoroughly after handling

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

**Precautionary Statements - Response**

Immediately call a POISON CENTRE or doctor

**Eyes**

Immediately call a POISON CENTRE or doctor

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

**Skin**

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

Wash contaminated clothing before reuse

**Inhalation**

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

Immediately call a POISON CENTRE or doctor

**Ingestion**

IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards which do not result in classification****SECTION 3: Composition/information on ingredients**

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Hydrochloric acid	7647-01-0	0.3 - 0.999
4-(2-Aminoethyl)guaiacol hydrochloride	645-33-0	0.01 - 0.099
Non-hazardous ingredients	Proprietary	Balance

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

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Inhalation**

If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Remove to fresh air.

**Eye contact**

Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

**Ingestion**

Get immediate medical advice/attention. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

**Self-protection of the first aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use

barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

**Symptoms** Burning sensation.

**Indication of any immediate medical attention and special treatment needed**

**Note to doctors** Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

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

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

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

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

**Environmental precautions**

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

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

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

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

**Precautions to prevent secondary hazards**

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

## SECTION 7: Handling and storage

### Precautions for safe handling

#### **Advice on safe handling**

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

#### **General hygiene considerations**

Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

### Conditions for safe storage, including any incompatibilities

#### **Storage Conditions**

Protect from moisture. Store away from other materials. Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store according to product and label instructions.

#### **Incompatible materials**

Acids. Bases. Oxidising agent.

## SECTION 8: Exposure controls/personal protection

### Control parameters

#### **Exposure Limits**

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Hydrochloric acid 7647-01-0	Ceiling: 5 ppm Ceiling: 7.5 mg/m <sup>3</sup>	Ceiling: 2 ppm	TWA: 1 ppm TWA: 2 mg/m <sup>3</sup> STEL: 5 ppm STEL: 8 mg/m <sup>3</sup>	5 ppm Peak 7.5 mg/m <sup>3</sup> Peak

#### **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**

Face protection shield. Tight sealing safety goggles.

#### **Hand protection**

Impervious gloves. Wear suitable gloves.

#### **Skin and body protection**

Long sleeved clothing. Chemical resistant apron. Wear suitable protective clothing.

#### **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.

#### **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

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	2	
Melting point / freezing point	0 °C	
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<b><u>Other information</u></b>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

**SECTION 10: Stability and reactivity****Reactivity**

Reactivity	No information available.
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**Chemical stability**

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

Sensitivity to mechanical impact	None.
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Sensitivity to static discharge	None.
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**Possibility of hazardous reactions**

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

**Conditions to avoid** Exposure to air or moisture over prolonged periods.

**Incompatible materials**

**Incompatible materials** Acids. Bases. Oxidising agent.

**Hazardous decomposition products**

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

## SECTION 11: Toxicological information

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information**

**Inhalation**

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

**Eye contact**

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

**Skin contact**

Corrosive. (based on components). Causes burns. Specific test data for the substance or mixture is not available.

**Ingestion**

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

**Symptoms**

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

**Acute toxicity**

**Numerical measures of toxicity**

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Hydrochloric acid	238 - 277 mg/kg ( Rat )	> 5010 mg/kg ( Rabbit )	= 1.68 mg/L ( Rat ) 1 h

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

**Skin corrosion/irritation**

Classification based on data available for ingredients. Causes burns.

**Serious eye damage/eye irritation**

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

**Germ cell mutagenicity**

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

**Carcinogenicity**

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

Chemical name	New Zealand	IARC
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.  
**Respiratory irritation** Based on available data, the classification criteria are not met.  
**Narcotic effects** Based on available data, the classification criteria are not met.

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

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

**SECTION 12: Ecological information****Ecotoxicity****Ecotoxicity****Aquatic ecotoxicity**

**Unknown aquatic toxicity** 0.001 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Hydrochloric acid	-	LC50: =282mg/L (96h, Gambusia affinis)	-

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil****Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****Waste treatment methods**

**Contaminated packaging** For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from  
 Packages may only be reused or recycled if the package has been treated to remove any



residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## SECTION 14: Transport information

**IATA** Not regulated

**IMDG** Not regulated

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

No information available

## SECTION 15: Regulatory information

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

### National regulations

#### **New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Hydrochloric acid - 7647-01-0	6.1B (All),6.1B (I),6.1D (D),6.1D (O),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1B (All),6.1B (I),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1D (All),6.1D (O),8.1A,8.2B,8.3A,9.3C 6.1E (All),6.1E (D),6.1E (O),8.1A,8.2C,8.3A 6.1E (All),6.1E (O),6.3A,6.4A

#### **National regulations**

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

#### **Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

### International Inventories

Contact supplier for inventory compliance status

#### **Legend:**

### International Regulations

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

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

**The Rotterdam Convention** Not applicable

**SECTION 16: Other information**

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

**Revision date** 27-Aug-2021

**Revision Note** Significant changes throughout SDS. Review all sections.

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

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

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

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

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** UMETS Anion Exchange Columns

**Catalogue Number(s)** 1956018

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Albany Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

Not classified

### Label elements

### **Hazard statements**

### Other hazards which do not result in classification

## SECTION 3: Composition/information on ingredients

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Benzenemethanaminium, ar-ethenyl-N,N,N-trimethyl-, chloride, polymer with diethenylbenzene	60177-39-1	35 - 50

Chemical name	CAS No	Weight-%
Non-hazardous ingredients	Proprietary	Balance

## 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	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.
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### Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.
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## SECTION 5: Firefighting measures

### Suitable Extinguishing Media

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

Specific hazards arising from the chemical	None known.
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### Special protective actions for fire-fighters

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

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal precautions	See section 8 for more information.
For emergency responders	Use personal protection recommended in Section 8.

### Environmental precautions

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 labelled containers.

**Precautions to prevent secondary hazards**

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

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

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

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

**Storage Conditions** Store according to product and label instructions.

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

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

**Control parameters**

**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).

**Hand protection** Wear suitable gloves.

**Skin and body protection** Wear suitable protective clothing.

**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.

**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	Varies
Odour	Odourless.
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		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
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Immiscible 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
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<u>Other information</u>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

## SECTION 10: Stability and reactivity

### Reactivity

Reactivity	No information available.
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### Chemical stability

Stability	Stable under normal conditions.
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### Explosion data

Sensitivity to mechanical impact	None.
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Sensitivity to static discharge	None.
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### Possibility of hazardous reactions

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

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

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

**Hazardous decomposition products**

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

**SECTION 11: Toxicological information****Acute toxicity****Information on likely routes of exposure****Product Information**

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

**Symptoms** No information available.

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

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

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

<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Respiratory irritation</b>	Based on available data, the classification criteria are not met.
<b>Narcotic effects</b>	Based on available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

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

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

**Aquatic ecotoxicity**

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

environment.

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil**

**Other adverse effects**

No information available.

## **SECTION 13: Disposal considerations**

**Waste treatment methods**

**Contaminated packaging** For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from  
Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## **SECTION 14: Transport information**

**IATA** Not regulated

**IMDG** Not regulated

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

No information available

## **SECTION 15: Regulatory information**

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

**National regulations**

**New Zealand**

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information



Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information  
Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

#### **Legend:**

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

### **SECTION 16: Other information**

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

**Revision date** 27-Aug-2021

**Revision Note** Significant changes throughout SDS. Review all sections.

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

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

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

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

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

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** UCAT/UMET by HPLC Basic Reagent

**Catalogue Number(s)** 1956038

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Albany Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

<b>Skin corrosion/irritation</b>	Category 1 Sub-category B (HSNO - 8.2B)
<b>Serious eye damage/eye irritation</b>	Category 1 (HSNO - 8.3A)

### Label elements



**Signal word**  
Danger

### **Hazard statements**

H314 - Causes severe skin burns and eye damage

### **Precautionary Statements - Prevention**

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

Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Immediately call a POISON CENTRE or doctor

**Eyes**

Immediately call a POISON CENTRE or doctor

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

**Skin**

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

Wash contaminated clothing before reuse

**Inhalation**

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

Immediately call a POISON CENTRE or doctor

**Ingestion**

IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards which do not result in classification****SECTION 3: Composition/information on ingredients**

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Sodium hydroxide	1310-73-2	1 - 2.5
Non-hazardous ingredients	Proprietary	Balance

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

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Inhalation**

If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Remove to fresh air.

**Eye contact**

Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

**Ingestion**

Get immediate medical advice/attention. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

**Self-protection of the first aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use

barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

**Symptoms** Burning sensation.

**Indication of any immediate medical attention and special treatment needed**

**Note to doctors** Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

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

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

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

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

**Environmental precautions**

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

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

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

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

**Precautions to prevent secondary hazards**

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

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

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

**General hygiene considerations**

Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

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

Protect from moisture. Store away from other materials. Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store according to product and label instructions.

**Incompatible materials**

Acids. Bases. Oxidising agent.

**SECTION 8: Exposure controls/personal protection****Control parameters****Exposure Limits**

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>	STEL: 2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup> Peak

**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**

Face protection shield. Tight sealing safety goggles.

**Hand protection**

Impervious gloves. Wear suitable gloves.

**Skin and body protection**

Long sleeved clothing. Chemical resistant apron. Wear suitable protective clothing.

**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.

**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

<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
pH		None known
Melting point / freezing point	0 °C	
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<b>Other information</b>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

**SECTION 10: Stability and reactivity****Reactivity**

Reactivity	No information available.
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**Chemical stability**

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

Sensitivity to mechanical impact	None.
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Sensitivity to static discharge	None.
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**Possibility of hazardous reactions**

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

Conditions to avoid	Exposure to air or moisture over prolonged periods.
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**Incompatible materials**

**Incompatible materials** Acids. Bases. Oxidising agent.

**Hazardous decomposition products**

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

**SECTION 11: Toxicological information****Acute toxicity****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	(based on components). Corrosive to the eyes and may cause severe damage including blindness. Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	Corrosive. (based on components). Causes burns. Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Specific test data for the substance or mixture is not available.
<b>Symptoms</b>	Coughing and/ or wheezing. Redness. Burning. May cause blindness.

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

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

<b>ATEmix (oral)</b>	16,250.00 mg/kg
<b>ATEmix (dermal)</b>	67,500.00 mg/kg

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Sodium hydroxide	= 325 mg/kg ( Rat )	= 1350 mg/kg ( Rabbit )	-

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

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Causes burns.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.



<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Respiratory irritation</b>	Based on available data, the classification criteria are not met.
<b>Narcotic effects</b>	Based on available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### Ecotoxicity

#### Ecotoxicity

#### Aquatic ecotoxicity

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

Chemical name	Algae/aquatic plants	Fish	Crustacea
Sodium hydroxide	-	LC50: =45.4mg/L (96h, Oncorhynchus mykiss)	-

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability** No information available.

### Bioaccumulative potential

**Bioaccumulation** No information available.

### Mobility in soil

### Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### Waste treatment methods

#### Contaminated packaging

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from.

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance).

## SECTION 14: Transport information

**IATA** Not regulated  
**UN number or ID number** 1824  
**Packing group** III

**IMDG** Not regulated

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

## SECTION 15: Regulatory information

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

#### National regulations

##### New Zealand

Chemical name	New Zealand HSNO Chemical Classification
Sodium hydroxide - 1310-73-2	6.1D (All),6.1D (D),6.1D (O),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1D (All),6.1D (O),6.1E (D),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F) 6.1E (All),6.1E (O),6.3A,6.4A 6.1E (All),6.1E (O),8.1A,8.2C,8.3A

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information  
 Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information  
 Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

#### Legend:

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

## SECTION 16: Other information

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

Revision date 27-Aug-2021

Revision Note Significant changes throughout SDS. Review all sections.

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

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

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

Revision date 21-Feb-2021

Revision Number 1

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

### Product identifier

Product Name UCAT/UMET Acidic Reagent

Catalogue Number(s) 1956037

### Other means of identification

Proper shipping name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Acetic acid)

UN number UN3265

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

Recommended use In-vitro laboratory reagent or component

Uses advised against No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Auckland  
New Zealand

Technical Service +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

Corrosive to metals	Category 1 (HSNO - 8.1A)
Flammable liquids	Category 3 (HSNO - 3.1C)
Skin corrosion/irritation	Category 1 Sub-category A (HSNO - 8.2A)
Serious eye damage/eye irritation	Category 1 (HSNO - 8.3A)

### Label elements



Signal word  
Danger

**Hazard statements**

H290 - May be corrosive to metals

H226 - Flammable liquid and vapour

H314 - Causes severe skin burns and eye damage

**Precautionary Statements - Prevention**

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

Wash face, hands and any exposed skin thoroughly after handling

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

Ground and bond container and receiving equipment

Use non-sparking tools

Take action to prevent static discharges

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Keep container tightly closed

Keep only in original packaging

**Precautionary Statements - Response**

Immediately call a POISON CENTRE or doctor

**Eyes**

Immediately call a POISON CENTRE or doctor

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

**Skin**

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

Wash contaminated clothing before reuse

**Inhalation**

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

Immediately call a POISON CENTRE or doctor

**Ingestion**

IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Fire**

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

**Spill**

Absorb spillage to prevent material damage

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep cool

Store in corrosion resistant container with a resistant inner liner

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards which do not result in classification****SECTION 3: Composition/information on ingredients**

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Acetic acid	64-19-7	5 - 10
Non-hazardous ingredients	Proprietary	Balance

**SECTION 4: First aid measures**

**Description of first aid measures**

<b>General advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Remove to fresh air.
<b>Eye contact</b>	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
<b>Ingestion</b>	Get immediate medical advice/attention. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Use personal protective equipment as required. See section 8 for more information. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.

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

<b>Symptoms</b>	Burning sensation.
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**Indication of any immediate medical attention and special treatment needed**

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

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
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<b>Unsuitable extinguishing media</b>	No information available.
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**Specific hazards arising from the chemical**

<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.
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**Special protective actions for fire-fighters**

<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** See section 8 for more information. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Attention! Corrosive material. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

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

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

### Environmental precautions

**Environmental precautions** Refer to protective measures listed in Sections 7 and 8. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

**Methods for cleaning up** Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.

### Precautions to prevent secondary hazards

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

## SECTION 7: Handling and storage

### Precautions for safe handling

**Advice on safe handling** Use personal protection equipment. Avoid breathing vapours or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Take off contaminated clothing and wash it before reuse. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

**General hygiene considerations** Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near

combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Protect from moisture. Store away from other materials. Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store according to product and label instructions.

**Incompatible materials**

Acids. Bases. Oxidising agent.

## SECTION 8: Exposure controls/personal protection

**Control parameters****Exposure Limits**

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Acetic acid 64-19-7	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 15 ppm STEL: 37 mg/m <sup>3</sup>	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 20 ppm STEL: 50 mg/m <sup>3</sup>	10 ppm 25 mg/m <sup>3</sup> 15 ppm STEL 37 mg/m <sup>3</sup> STEL

**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**

Face protection shield. Tight sealing safety goggles.

**Hand protection**

Impervious gloves. Wear suitable gloves.

**Skin and body protection**

Antistatic boots. Long sleeved clothing. Chemical resistant apron. Wear suitable protective clothing.

**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.

**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	Varies
Odour	Odourless.
Odour threshold	No information available

**Property****Values****Remarks • Method**

pH

None known

Melting point / freezing point

No data available

None known

Boiling point / boiling range

100 °C

Flash point

> 55 °C



Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<b>Other information</b>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

## 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 Yes.

### Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

### Conditions to avoid

Conditions to avoid Heat, flames and sparks. Exposure to air or moisture over prolonged periods.

### Incompatible materials

Incompatible materials Acids. Bases. Oxidising agent.

### Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

## SECTION 11: Toxicological information

### Acute toxicity

### Information on likely routes of exposure

Product Information

<b>Inhalation</b>	Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	(based on components). Corrosive to the eyes and may cause severe damage including blindness. Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	Corrosive. (based on components). Causes burns. Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Specific test data for the substance or mixture is not available.

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

#### Acute toxicity

#### **Numerical measures of toxicity**

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

<b>ATEmix (oral)</b>	50,923.10 mg/kg
<b>ATEmix (dermal)</b>	16,307.70 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	175.40 mg/l

#### **Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Acetic acid	= 3310 mg/kg ( Rat )	= 1060 mg/kg ( Rabbit )	= 11.4 mg/L ( Rat ) 4 h

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

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Causes burns.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b> <b>Respiratory irritation</b> <b>Narcotic effects</b>	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.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information****Ecotoxicity****Ecotoxicity****Aquatic ecotoxicity**

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

Chemical name	Algae/aquatic plants	Fish	Crustacea
Acetic acid	-	LC50: =75mg/L (96h, Lepomis macrochirus) LC50: =79mg/L (96h, Pimephales promelas)	EC50: =47mg/L (24h, Daphnia magna) EC50: =65mg/L (48h, Daphnia magna)

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

Chemical name	Partition coefficient
Acetic acid	-0.31

**Mobility in soil****Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****Waste treatment methods****Contaminated packaging**

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

**SECTION 14: Transport information****IATA**

**UN number or ID number** UN3265  
**UN proper shipping name** Corrosive liquid, acidic, organic, n.o.s. (Acetic acid)  
**Transport hazard class(es)** 8  
**Packing group** III  
**ERG Code** 8L  
**Special Provisions** A3, A803  
**Description** UN3265, Corrosive liquid, acidic, organic, n.o.s. (Acetic acid), 8, III

**IMDG**

UN number or ID number	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Acetic acid)
Transport hazard class(es)	8
Packing group	III
EmS-No	F-A, S-B
Special Provisions	223, 274
Marine pollutant	NP
Description	UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Acetic acid), 8, III, (55°C C.C.)

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

No information available

**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Acetic acid - 64-19-7	3.1C,6.1D (All),6.1D (D),6.1D (I),6.1D (O),6.9B (All),6.9B (I),8.1A,8.2B,8.3A,9.1D (All),9.1D (A),9.1D (C),9.1D (F),9.3C 3.1D,6.1D (All),6.1D (D),6.1D (O),6.9B (All),6.9B (I),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1D (All),6.1D (O),6.1E (D),6.9B (All),6.9B (I),8.1A,8.2C,8.3A,9.1D (All),9.1D (C),9.3C 6.1E (All),6.1E (D),6.1E (O),6.9B (All),6.9B (I),8.1A,8.2C,8.3A

**National regulations**

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**Legend:****International Regulations**

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

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

**The Rotterdam Convention** Not applicable

**SECTION 16: Other information**

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

**Revision date** 21-Feb-2021

**Revision Note** Significant changes throughout SDS. Review all sections.

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

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

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

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

**Disclaimer**

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** UCAT/UMET/VMA by HPLC Reconstitution Reagent

**Catalogue Number(s)** 1956039

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Albany Auckland  
New Zealand

#### **Technical Service**

+64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

**Skin corrosion/irritation**

Category 3 (HSNO - 6.3B)

### Label elements

#### **Signal word**

Warning

#### **Hazard statements**

H316 - Causes mild skin irritation

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

#### **Skin**

If skin irritation occurs: Get medical advice/attention

### Other hazards which do not result in classification

## SECTION 3: Composition/information on ingredients

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Hydrochloric acid	7647-01-0	0.1 - 0.299
Non-hazardous ingredients	Proprietary	Balance

## 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	Wash skin with soap and water.
Ingestion	Rinse mouth thoroughly with water.

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

Symptoms	Prolonged contact may cause redness and irritation.
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### Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.
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## SECTION 5: Firefighting measures

### Suitable Extinguishing Media

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

Specific hazards arising from the chemical	None known.
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### Special protective actions for fire-fighters

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

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal precautions	See section 8 for more information.
For emergency responders	Use personal protection recommended in Section 8.

**Environmental precautions**

**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 labelled containers.

**Precautions to prevent secondary hazards**

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

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

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

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

**Storage Conditions** Store according to product and label instructions.

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

**SECTION 8: Exposure controls/personal protection****Control parameters****Exposure Limits**

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Hydrochloric acid 7647-01-0	Ceiling: 5 ppm Ceiling: 7.5 mg/m <sup>3</sup>	Ceiling: 2 ppm	TWA: 1 ppm TWA: 2 mg/m <sup>3</sup> STEL: 5 ppm STEL: 8 mg/m <sup>3</sup>	5 ppm Peak 7.5 mg/m <sup>3</sup> Peak

**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).

**Hand protection** Wear suitable gloves.

**Skin and body protection** Wear suitable protective clothing.

**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.

**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		None known
Melting point / freezing point	0 °C	
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	

### Other information

Molecular weight	Not applicable
VOC Content (%)	Not applicable

## 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

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

**Conditions to avoid**

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

**Incompatible materials**

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

**Hazardous decomposition products**

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

**SECTION 11: Toxicological information****Acute toxicity****Information on likely routes of exposure****Product Information**

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

**Symptoms** Prolonged contact may cause redness and irritation.

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

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Hydrochloric acid	238 - 277 mg/kg ( Rat )	> 5010 mg/kg ( Rabbit )	= 1.68 mg/L ( Rat ) 1 h

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

**Skin corrosion/irritation** Classification based on data available for ingredients. May cause skin irritation.

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

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

**Carcinogenicity**

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

Chemical name	New Zealand	IARC
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.

<b>STOT - single exposure</b> <b>Respiratory irritation</b> <b>Narcotic effects</b>	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.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### Ecotoxicity

#### Ecotoxicity

#### Aquatic ecotoxicity

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

Chemical name	Algae/aquatic plants	Fish	Crustacea
Hydrochloric acid	-	LC50: =282mg/L (96h, Gambusia affinis)	-

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability** No information available.

### Bioaccumulative potential

**Bioaccumulation** No information available.

### Mobility in soil

### Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### Waste treatment methods

**Contaminated packaging** For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from.  
Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## SECTION 14: Transport information

**IATA** Not regulated

**IMDG** Not regulated

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

## SECTION 15: Regulatory information

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

### National regulations

#### New Zealand

Chemical name	New Zealand HSNO Chemical Classification
Hydrochloric acid - 7647-01-0	6.1B (All), 6.1B (I), 6.1D (D), 6.1D (O), 8.1A, 8.2B, 8.3A, 9.1D (All), 9.1D (C), 9.1D (F), 9.3C 6.1B (All), 6.1B (I), 8.1A, 8.2B, 8.3A, 9.1D (All), 9.1D (C), 9.1D (F), 9.3C 6.1D (All), 6.1D (O), 8.1A, 8.2B, 8.3A, 9.3C 6.1E (All), 6.1E (D), 6.1E (O), 8.1A, 8.2C, 8.3A 6.1E (All), 6.1E (O), 6.3A, 6.4A

#### National regulations

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

#### Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

#### EPA New Zealand HSNO approval code or group standard

Not applicable

### International Inventories

Contact supplier for inventory compliance status

#### Legend:

### International Regulations

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

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

**The Rotterdam Convention** Not applicable

## SECTION 16: Other information

#### Prepared By

Bio-Rad Laboratories, Environmental Health and Safety

#### Revision date

27-Aug-2021

#### Revision Note

Significant changes throughout SDS. Review all sections.

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

---

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

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

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

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**End of Safety Data Sheet**

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** UMETS by HPLC Hydrolysis Reagent

**Catalogue Number(s)** 1956046

### Other means of identification

**Proper shipping name** HYDROCHLORIC ACID SOLUTION

**UN number** UN1789

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Albany Auckland  
New Zealand

#### Technical Service

+64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

<b>Acute toxicity - Oral</b>	Category 5 (HSNO - 6.1E)
<b>Acute toxicity - Inhalation (Gases)</b>	Category 4 (HSNO - 6.1D)
<b>Skin corrosion/irritation</b>	Category 1 Sub-category A (HSNO - 8.2A)
<b>Serious eye damage/eye irritation</b>	Category 1 (HSNO - 8.3A)

### Label elements



**Signal word**  
Danger

**Hazard statements**

H303 - May be harmful if swallowed

H314 - Causes severe skin burns and eye damage

H332 - Harmful if inhaled

**Precautionary Statements - Prevention**

Use only outdoors or in a well-ventilated area

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

Wash face, hands and any exposed skin thoroughly after handling

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

**Precautionary Statements - Response**

Immediately call a POISON CENTRE or doctor

**Eyes**

Immediately call a POISON CENTRE or doctor

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

**Skin**

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

Wash contaminated clothing before reuse

**Inhalation**

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

Call a POISON CENTRE or doctor if you feel unwell

Immediately call a POISON CENTRE or doctor

**Ingestion**

IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards which do not result in classification****SECTION 3: Composition/information on ingredients**

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Hydrochloric acid	7647-01-0	5 - 10
Non-hazardous ingredients	Proprietary	Balance

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

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Inhalation**

Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.

**Eye contact**

Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do.

	Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
<b>Ingestion</b>	Get immediate medical advice/attention. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person.
<b>Self-protection of the first aider</b>	Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing vapours or mists. Use personal protective equipment as required. See section 8 for more information.

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

**Symptoms** Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

**Indication of any immediate medical attention and special treatment needed**

**Note to doctors** Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

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

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

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

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

**Environmental precautions**

**Environmental precautions** Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent



product from entering drains. Prevent further leakage or spillage if safe to do so.

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

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

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

#### **Precautions to prevent secondary hazards**

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

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

#### **Precautions for safe handling**

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

**General hygiene considerations** Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

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

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

**Incompatible materials** Acids. Bases. Oxidising agent.

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

#### **Control parameters**

##### **Exposure Limits**

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Hydrochloric acid 7647-01-0	Ceiling: 5 ppm Ceiling: 7.5 mg/m <sup>3</sup>	Ceiling: 2 ppm	TWA: 1 ppm TWA: 2 mg/m <sup>3</sup> STEL: 5 ppm STEL: 8 mg/m <sup>3</sup>	5 ppm Peak 7.5 mg/m <sup>3</sup> Peak

**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**

<b>Eye/face protection</b>	Face protection shield. Tight sealing safety goggles.
<b>Hand protection</b>	Impervious gloves. Wear suitable gloves.
<b>Skin and body protection</b>	Long sleeved clothing. Chemical resistant apron. Wear suitable protective clothing.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Environmental exposure controls</b>	No information available.

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

<b>Physical state</b>	Liquid
<b>Appearance</b>	aqueous solution
<b>Colour</b>	white
<b>Odour</b>	Pungent.
<b>Odour threshold</b>	No information available

<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
<b>pH</b>	1	
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	85-108 °C	
<b>Flash point</b>	No data available	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapour pressure</b>	No data available	None known
<b>Vapour density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Miscible in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Explosive properties</b>	Not applicable.	
<b>Oxidising properties</b>	Not applicable.	

**Other information**

<b>Molecular weight</b>	Not applicable
<b>VOC Content (%)</b>	Not applicable

**SECTION 10: Stability and reactivity****Reactivity**

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

<b>Stability</b>	Stable under normal conditions.
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**Explosion data****Sensitivity to mechanical impact** None.**Sensitivity to static discharge** None.**Possibility of hazardous reactions****Possibility of hazardous reactions** None under normal processing.**Conditions to avoid****Conditions to avoid** Exposure to air or moisture over prolonged periods. Excessive heat.**Incompatible materials****Incompatible materials** Acids. Bases. Oxidising agent.**Hazardous decomposition products****Hazardous decomposition products** None known based on information supplied.**SECTION 11: Toxicological information****Acute toxicity****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Specific test data for the substance or mixture is not available. Harmful by inhalation. (based on components).
<b>Eye contact</b>	(based on components). Corrosive to the eyes and may cause severe damage including blindness. Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	Corrosive. (based on components). Causes burns. Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Specific test data for the substance or mixture is not available.
<b>Symptoms</b>	Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Acute toxicity****Numerical measures of toxicity****The following values are calculated based on chapter 3.1 of the GHS document**

<b>ATEmix (oral)</b>	3,419.50 mg/kg
<b>ATEmix (dermal)</b>	72,054.74 mg/kg
<b>ATEmix (inhalation-gas)</b>	8,093.4224 mg/l
<b>ATEmix (inhalation-dust/mist)</b>	7.198 mg/l

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Hydrochloric acid	238 - 277 mg/kg ( Rat )	> 5010 mg/kg ( Rabbit )	= 1.68 mg/L ( Rat ) 1 h

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

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Causes burns.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.

**Carcinogenicity**

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

Chemical name	New Zealand	IARC
Hydrochloric acid - 7647-01-0	-	Group 3

**Legend**

**IARC (International Agency for Research on Cancer)**

Group 3 - Not Classifiable as to Carcinogenicity in Humans

<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Respiratory irritation</b>	Based on available data, the classification criteria are not met.
<b>Narcotic effects</b>	Based on available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information****Ecotoxicity****Ecotoxicity****Aquatic ecotoxicity**

<b>Unknown aquatic toxicity</b>	0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.
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Chemical name	Algae/aquatic plants	Fish	Crustacea
Hydrochloric acid	-	LC50: =282mg/L (96h, Gambusia affinis)	-

<b>Terrestrial ecotoxicity</b>	There is no data for this product.
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<b>Persistence and degradability</b>	No information available.
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**Bioaccumulative potential**

<b>Bioaccumulation</b>	No information available.
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**Mobility in soil**

**Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****Waste treatment methods****Contaminated packaging**

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

**SECTION 14: Transport information****IATA**

UN number or ID number	UN1789
UN proper shipping name	Hydrochloric acid solution
Transport hazard class(es)	8
Packing group	II
ERG Code	8L
Special Provisions	A3, A803
Description	UN1789, Hydrochloric acid solution, 8, II

**IMDG**

UN number or ID number	UN1789
UN proper shipping name	HYDROCHLORIC ACID SOLUTION
Transport hazard class(es)	8
Packing group	II
EmS-No	F-A, S-B
Marine pollutant	NP
Description	UN1789, HYDROCHLORIC ACID SOLUTION, 8, II

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

No information available

**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Hydrochloric acid - 7647-01-0	6.1B (All),6.1B (I),6.1D (D),6.1D (O),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1B (All),6.1B (I),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1D (All),6.1D (O),8.1A,8.2B,8.3A,9.3C 6.1E (All),6.1E (D),6.1E (O),8.1A,8.2C,8.3A 6.1E (All),6.1E (O),6.3A,6.4A

<b>National regulations</b>	See Section 8 for any applicable tolerable exposure limits and environmental exposure limits
<b>Certified handlers, tracking and controlled substance license requirements</b>	<p>Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information</p> <p>Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information</p> <p>Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information</p>
<b>EPA New Zealand HSNO approval code or group standard</b>	Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**Legend:****International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**SECTION 16: Other information****Prepared By** Bio-Rad Laboratories, Environmental Health and Safety**Revision date** 27-Aug-2021**Revision Note** Significant changes throughout SDS. Review all sections.**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

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

New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** UMETS by HPLC Dilution Reagent

**Catalogue Number(s)** 1956043

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Albany Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

Not classified

### Label elements

### **Hazard statements**

### Other hazards which do not result in classification

## SECTION 3: Composition/information on ingredients

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Ammonium boron oxide ((NH <sub>4</sub> )B <sub>5</sub> O <sub>8</sub> )	12007-89-5	2.5 - 5
Ethylenediaminetetraacetic acid	60-00-4	0.1 - 0.299
Non-hazardous ingredients	Proprietary	Balance



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

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Rinse mouth thoroughly with water.

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

<b>Symptoms</b>	No information available.
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**Indication of any immediate medical attention and special treatment needed**

<b>Note to doctors</b>	Treat symptomatically.
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**SECTION 5: Firefighting measures****Suitable Extinguishing Media**

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

<b>Specific hazards arising from the chemical</b>	None known.
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**Special protective actions for fire-fighters**

<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	See section 8 for more information.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.

**Environmental precautions**

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

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

**Precautions to prevent secondary hazards**

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

## SECTION 7: Handling and storage

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

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

**Storage Conditions** Store according to product and label instructions.

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

## SECTION 8: Exposure controls/personal protection

**Control parameters**

**Exposure Limits**

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Ammonium boron oxide (NH <sub>4</sub> )B <sub>5</sub> O <sub>8</sub> 12007-89-5		STEL: 6 mg/m <sup>3</sup> inhalable particulate matter TWA: 2 mg/m <sup>3</sup> inhalable particulate matter	-	

**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).

**Hand protection** Wear suitable gloves.

**Skin and body protection** Wear suitable protective clothing.

**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.

**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	7.5	
Melting point / freezing point	0 °C	
Boiling point / boiling range	= 100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<u>Other information</u>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

## SECTION 10: Stability and reactivity

### Reactivity

Reactivity	No information available.
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### Chemical stability

Stability	Stable under normal conditions.
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### Explosion data

Sensitivity to mechanical impact	None.
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Sensitivity to static discharge	None.
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### Possibility of hazardous reactions

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

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

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

**Hazardous decomposition products**

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

## **SECTION 11: Toxicological information**

**Acute toxicity**

**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** No information available.

**Acute toxicity**

**Numerical measures of toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Ethylenediaminetetraacetic acid	> 2000 mg/kg ( 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.

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

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

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

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

**STOT - single exposure** Based on available data, the classification criteria are not met.  
**Respiratory irritation** Based on available data, the classification criteria are not met.  
**Narcotic effects** Based on available data, the classification criteria are not met.

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

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

## **SECTION 12: Ecological information**

**Ecotoxicity**

**Ecotoxicity****Aquatic ecotoxicity**

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

Chemical name	Algae/aquatic plants	Fish	Crustacea
Ethylenediaminetetraacetic acid	EC50: =1.01mg/L (72h, <i>Desmodesmus subspicatus</i> )	LC50: 34 - 62mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: 44.2 - 76.5mg/L (96h, <i>Pimephales promelas</i> )	EC50: =113mg/L (48h, <i>Daphnia magna</i> )

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility in soil****Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****Waste treatment methods**

**Contaminated packaging** For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from  
Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

**SECTION 14: Transport information**

**IATA** Not regulated

**IMDG** Not regulated

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

No information available

**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations**

**New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Ethylenediaminetetraacetic acid - 60-00-4	6.1E (All),6.1E (O),6.3B,6.4A,9.1C (All),9.1C (F)

**National regulations** See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information  
Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information  
Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

#### **Legend:**

#### International Regulations

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

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

**The Rotterdam Convention** Not applicable

### **SECTION 16: Other information**

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

**Revision date** 27-Aug-2021

**Revision Note** Significant changes throughout SDS. Review all sections.

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

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

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

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

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

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

**Disclaimer**

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

**End of Safety Data Sheet**



# SAFETY DATA SHEET

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** UMETS by HPLC Transfer Buffer

**Catalogue Number(s)** 1956044

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

Acute toxicity - Oral	Category 5 (HSNO - 6.1E)
Skin corrosion/irritation	Category 1 Sub-category B (HSNO - 8.2B)
Serious eye damage/eye irritation	Category 1 (HSNO - 8.3A)
Acute aquatic toxicity	Category 2 (HSNO - 9.1D)
Chronic aquatic toxicity	Category 2 (HSNO - 9.1B)

### Label elements



### **Signal word**

Danger

### **Hazard statements**

H303 - May be harmful if swallowed



H314 - Causes severe skin burns and eye damage  
H411 - Toxic to aquatic life with long lasting effects

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapours/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid release to the environment

**Precautionary Statements - Response**

Immediately call a POISON CENTRE or doctor

**Eyes**

Immediately call a POISON CENTRE or doctor  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Skin**

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

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Immediately call a POISON CENTRE or doctor

**Ingestion**

IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Spill**

Collect spillage

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards which do not result in classification****SECTION 3: Composition/information on ingredients**

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Ammonium hydroxide	1336-21-6	5 - 10
Non-hazardous ingredients	Proprietary	Balance

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

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Inhalation**

If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Remove to fresh air.

**Eye contact**

Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
<b>Ingestion</b>	Get immediate medical advice/attention. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

<b>Symptoms</b>	Burning sensation.
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**Indication of any immediate medical attention and special treatment needed**

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

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

<b>Specific hazards arising from the chemical</b>	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.
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**Special protective actions for fire-fighters**

<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	Attention! Corrosive material. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.
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<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.
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<b>For emergency responders</b>	Use personal protection recommended in Section 8.
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**Environmental precautions**

<b>Environmental precautions</b>	Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
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**Methods and material for containment and cleaning up**

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

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

**Precautions to prevent secondary hazards**

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

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

**Precautions for safe handling**

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

**General hygiene considerations** Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

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

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

**Incompatible materials** Acids. Bases. Oxidising agent.

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

**Control parameters**

**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** Face protection shield. Tight sealing safety goggles.

**Hand protection** Impervious gloves. Wear suitable gloves.

<b>Skin and body protection</b>	Long sleeved clothing. Chemical resistant apron. Wear suitable protective clothing.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Environmental exposure controls</b>	No information available.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	aqueous solution
<b>Colour</b>	white
<b>Odour</b>	Ammonia-like odour.
<b>Odour threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	11.9	
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	100 °C	
<b>Flash point</b>	No data available	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
<b>Vapour pressure</b>	No data available	None known
<b>Vapour density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Miscible in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Explosive properties</b>	Not applicable.	
<b>Oxidising properties</b>	Not applicable.	

### Other information

<b>Molecular weight</b>	Not applicable
<b>VOC Content (%)</b>	Not applicable

## SECTION 10: Stability and reactivity

### Reactivity

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

<b>Stability</b>	Stable under normal conditions.
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### Explosion data

<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	None.

**Possibility of hazardous reactions****Possibility of hazardous reactions** None under normal processing.**Conditions to avoid****Conditions to avoid** Exposure to air or moisture over prolonged periods.**Incompatible materials****Incompatible materials** Acids. Bases. Oxidising agent.**Hazardous decomposition products****Hazardous decomposition products** None known based on information supplied.**SECTION 11: Toxicological information****Acute toxicity****Information on likely routes of exposure****Product Information****Inhalation**

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

**Eye contact**

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

**Skin contact**

Corrosive. (based on components). Causes burns. Specific test data for the substance or mixture is not available.

**Ingestion**

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

**Symptoms**

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

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

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

ATEmix (oral) 4,902.00 mg/kg

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Ammonium hydroxide	= 350 mg/kg ( Rat )	-	-

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

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Causes burns.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Respiratory irritation</b>	Based on available data, the classification criteria are not met.
<b>Narcotic effects</b>	Based on available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### Ecotoxicity

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

### Aquatic ecotoxicity

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

Chemical name	Algae/aquatic plants	Fish	Crustacea
Ammonium hydroxide	-	LC50: =8.2mg/L (96h, Pimephales promelas)	EC50: =0.66mg/L (48h, Daphnia pulex) EC50: =0.66mg/L (48h, water flea)

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability** No information available.

### Bioaccumulative potential

**Bioaccumulation** No information available.

### Mobility in soil

### Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### Waste treatment methods

**Contaminated packaging** For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured

from

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## SECTION 14: Transport information

**IATA** Not regulated

**IMDG** Not regulated

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

No information available

## SECTION 15: Regulatory information

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

### National regulations

#### **New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Ammonium hydroxide - 1336-21-6	2.1.1B,6.1D (All),6.1D (O),8.1A,8.2B,8.3A,9.1A (All),9.1A (C),9.1A (F),9.3B 6.1D (All),6.1D (O),8.1A,8.2B,8.3A,9.1A (All),9.1A (C),9.1A (F),9.3B 6.1D (All),6.1D (O),8.1A,8.2C,8.3A,9.1A (All),9.1A (C),9.1A (F),9.3C 6.1E (All),6.1E (O),6.3A,6.4A,9.1D (All),9.1D (C),9.1D (F)

#### **National regulations**

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

#### **Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

### International Inventories

Contact supplier for inventory compliance status

#### **Legend:**

### International Regulations

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

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

The Rotterdam Convention Not applicable

## SECTION 16: Other information

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

**Revision date** 27-Aug-2021

**Revision Note** Significant changes throughout SDS. Review all sections.

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

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

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

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

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

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**End of Safety Data Sheet**





# SAFETY DATA SHEET

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** UMETS by HPLC Elution Reagent

**Catalogue Number(s)** 1956045

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Albany Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

Not classified

### Label elements

### **Hazard statements**

### Other hazards which do not result in classification

## SECTION 3: Composition/information on ingredients

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Ammonium acetate	631-61-8	1 - 2.5
Acetic acid	64-19-7	0.01 - 0.099

Chemical name	CAS No	Weight-%
Non-hazardous ingredients	Proprietary	Balance

## 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	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.
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### Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.
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## SECTION 5: Firefighting measures

### Suitable Extinguishing Media

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

### Specific hazards arising from the chemical

Specific hazards arising from the chemical	None known.
--	-------------

### Special protective actions for fire-fighters

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

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal precautions	See section 8 for more information.
For emergency responders	Use personal protection recommended in Section 8.

### Environmental precautions

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 labelled containers.

**Precautions to prevent secondary hazards**

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

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

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

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

**Storage Conditions** Store according to product and label instructions.

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

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

**Control parameters**

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

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Acetic acid 64-19-7	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 15 ppm STEL: 37 mg/m <sup>3</sup>	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 20 ppm STEL: 50 mg/m <sup>3</sup>	10 ppm 25 mg/m <sup>3</sup> 15 ppm STEL 37 mg/m <sup>3</sup> STEL

**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).

**Hand protection** Wear suitable gloves.

**Skin and body protection** Wear suitable protective clothing.

**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.

**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	0 °C	
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<u>Other information</u>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

## SECTION 10: Stability and reactivity

### Reactivity

Reactivity	No information available.
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### Chemical stability

Stability	Stable under normal conditions.
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### Explosion data

Sensitivity to mechanical impact	None.
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Sensitivity to static discharge	None.
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### Possibility of hazardous reactions

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

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

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

**Hazardous decomposition products**

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

**SECTION 11: Toxicological information****Acute toxicity****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** No information available.

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

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Acetic acid	= 3310 mg/kg ( Rat )	= 1060 mg/kg ( Rabbit )	= 11.4 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.

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

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

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

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

**STOT - single exposure** Based on available data, the classification criteria are not met.  
**Respiratory irritation** Based on available data, the classification criteria are not met.  
**Narcotic effects** Based on available data, the classification criteria are not met.

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

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

**SECTION 12: Ecological information**

**Ecotoxicity****Ecotoxicity****Aquatic ecotoxicity**

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

Chemical name	Algae/aquatic plants	Fish	Crustacea
Ammonium acetate	-	LC50: =1.06mg/L (48h, Cyprinus carpio)	-
Acetic acid	-	LC50: =75mg/L (96h, Lepomis macrochirus) LC50: =79mg/L (96h, Pimephales promelas)	EC50: =47mg/L (24h, Daphnia magna) EC50: =65mg/L (48h, Daphnia magna)

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

Chemical name	Partition coefficient
Acetic acid	-0.31

**Mobility in soil****Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****Waste treatment methods****Contaminated packaging**

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from.

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance).

**SECTION 14: Transport information**

**IATA** Not regulated

**IMDG** Not regulated

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

No information available

**SECTION 15: Regulatory information**

**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Ammonium acetate - 631-61-8	6.3B,6.4A
Acetic acid - 64-19-7	3.1C,6.1D (All),6.1D (D),6.1D (I),6.1D (O),6.9B (All),6.9B (I),8.1A,8.2B,8.3A,9.1D (All),9.1D (A),9.1D (C),9.1D (F),9.3C 3.1D,6.1D (All),6.1D (D),6.1D (O),6.9B (All),6.9B (I),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1D (All),6.1D (O),6.1E (D),6.9B (All),6.9B (I),8.1A,8.2C,8.3A,9.1D (All),9.1D (C),9.3C 6.1E (All),6.1E (D),6.1E (O),6.9B (All),6.9B (I),8.1A,8.2C,8.3A

**National regulations**

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard**

Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**Legend:****International Regulations**

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

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

**The Rotterdam Convention** Not applicable

**SECTION 16: Other information****Prepared By**

Bio-Rad Laboratories, Environmental Health and Safety

**Revision date**

27-Aug-2021

**Revision Note**

Significant changes throughout SDS. Review all sections.

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

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

**Disclaimer**

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

**End of Safety Data Sheet**





# SAFETY DATA SHEET

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** HPLC Cation Exchange Columns

**Catalogue Number(s)** 1956012

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

<b>Skin corrosion/irritation</b>	Category 2 (HSNO - 6.3A)
<b>Serious eye damage/eye irritation</b>	Category 2A (HSNO - 6.4A)

### Label elements



**Signal word**  
Warning

### **Hazard statements**

H315 - Causes skin irritation

H319 - Causes serious eye irritation

### **Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

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

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

**Skin**

IF ON SKIN: Wash with plenty of water and soap  
If skin irritation occurs: Get medical advice/attention  
Take off all contaminated clothing and wash it before reuse

**Other hazards which do not result in classification****SECTION 3: Composition/information on ingredients**

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Amberlite IRC-50S Ion Exchange Resin	81133-22-4	35 - 50
Acetic acid	64-19-7	1 - 2.5
5-Bromo-5-nitro-1,3-dioxane	30007-47-7	0.01 - 0.099
Non-hazardous ingredients	Proprietary	Balance

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

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Get medical attention immediately if symptoms occur. Remove to fresh air.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

<b>Symptoms</b>	May cause redness and tearing of the eyes. Burning sensation.
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**Indication of any immediate medical attention and special treatment needed**

<b>Note to doctors</b>	Treat symptomatically.
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**SECTION 5: Firefighting measures****Suitable Extinguishing Media**

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

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

**Special protective equipment 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. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

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

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

**Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

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

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

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

**Precautions to prevent secondary hazards**

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

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

**Precautions for safe handling**

**Advice on safe handling** Take off contaminated clothing and wash it before reuse. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store according to product and label instructions.

**Incompatible materials** Strong acids. Strong bases. Strong oxidising agents.

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

**Control parameters****Exposure Limits**

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Acetic acid 64-19-7	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 15 ppm STEL: 37 mg/m <sup>3</sup>	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 20 ppm STEL: 50 mg/m <sup>3</sup>	10 ppm 25 mg/m <sup>3</sup> 15 ppm STEL 37 mg/m <sup>3</sup> STEL

**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**

If splashes are likely to occur, wear safety glasses with side-shields.

**Hand protection**

Impervious gloves. Wear suitable gloves.

**Skin and body protection**

Long sleeved clothing. Wear suitable protective clothing.

**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.

**Environmental exposure controls**

No information available.

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

Physical state	Liquid
Appearance	Suspension
Colour	white
Odour	Ammonia-like odour.
Odour threshold	No information available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	6.5	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Immiscible 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
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<u>Other information</u>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

## 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

Possibility of hazardous reactions None under normal processing.

### Conditions to avoid

Conditions to avoid None known based on information supplied.

### Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

### Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

## SECTION 11: Toxicological information

### Acute toxicity

### Information on likely routes of exposure

#### Product Information

Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye contact	Irritating to eyes. Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components).
Skin contact	Causes skin irritation. (based on components). Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

**Symptoms** Redness. May cause redness and tearing of the eyes.

### Acute toxicity

#### Numerical measures of toxicity

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

ATEmix (oral)	79,805.20 mg/kg
ATEmix (dermal)	25,557.00 mg/kg
ATEmix (inhalation-dust/mist)	274.90 mg/l

### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Acetic acid	= 3310 mg/kg ( Rat )	= 1060 mg/kg ( Rabbit )	= 11.4 mg/L ( Rat ) 4 h
5-Bromo-5-nitro-1,3-dioxane	= 455 mg/kg ( Rat )	-	-

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

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Irritating to skin.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes serious eye irritation.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Respiratory irritation</b>	Based on available data, the classification criteria are not met.
<b>Narcotic effects</b>	Based on available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### Ecotoxicity

#### Ecotoxicity

#### Aquatic ecotoxicity

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

Chemical name	Algae/aquatic plants	Fish	Crustacea
Acetic acid	-	LC50: =75mg/L (96h, Lepomis macrochirus) LC50: =79mg/L (96h, Pimephales promelas)	EC50: =47mg/L (24h, Daphnia magna) EC50: =65mg/L (48h, Daphnia magna)

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability** No information available.

### Bioaccumulative potential

**Bioaccumulation** There is no data for this product.

Chemical name	Partition coefficient
Acetic acid	-0.31

### Mobility in soil

### Other adverse effects

No information available.

## **SECTION 13: Disposal considerations**

### Waste treatment methods

### **Contaminated packaging**

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## **SECTION 14: Transport information**

**IATA** Not regulated

**IMDG** Not regulated

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

No information available

## **SECTION 15: Regulatory information**

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

### National regulations

#### **New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Acetic acid - 64-19-7	3.1C,6.1D (All),6.1D (D),6.1D (I),6.1D (O),6.9B (All),6.9B (I),8.1A,8.2B,8.3A,9.1D (All),9.1D (A),9.1D (C),9.1D (F),9.3C 3.1D,6.1D (All),6.1D (D),6.1D (O),6.9B (All),6.9B (I),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1D (All),6.1D (O),6.1E (D),6.9B (All),6.9B (I),8.1A,8.2C,8.3A,9.1D (All),9.1D (C),9.3C 6.1E (All),6.1E (D),6.1E (O),6.9B (All),6.9B (I),8.1A,8.2C,8.3A
5-Bromo-5-nitro-1,3-dioxane - 30007-47-7	6.1D (All),6.1D (O),6.3A,6.4A,6.5B,9.1A (All),9.1A (A),9.1A (C),9.1C (All),9.1C (F),9.3B

### **National regulations**

See Section 8 for any applicable tolerable exposure limits and environmental exposure

limits

**Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**Legend:****International Regulations**

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

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

**The Rotterdam Convention** Not applicable

**SECTION 16: Other information**

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

**Revision date** 27-Aug-2021

**Revision Note** Significant changes throughout SDS. Review all sections.

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

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

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

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

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

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

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

National Toxicology Program (NTP)

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

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



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

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

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

**Disclaimer**

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

**End of Safety Data Sheet**

Revision date 27-Aug-2021

Revision Number 1.1

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

### Product identifier

**Product Name** UCAT/PCAT by HPLC Internal Standard

**Catalogue Number(s)** 1956035

### Other means of identification

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

**Recommended use** In-vitro laboratory reagent or component

**Uses advised against** No information available

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Albany Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

<b>Skin corrosion/irritation</b>	Category 1 (HSNO - 8.2A)
<b>Serious eye damage/eye irritation</b>	Category 1 (HSNO - 8.3A)

### Label elements



**Signal word**  
Danger

### **Hazard statements**

H314 - Causes severe skin burns and eye damage

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapours/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Immediately call a POISON CENTRE or doctor

**Eyes**

Immediately call a POISON CENTRE or doctor  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Skin**

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

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Immediately call a POISON CENTRE or doctor

**Ingestion**

IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards which do not result in classification****SECTION 3: Composition/information on ingredients**

Chemical name	CAS No	Weight-%
Water	7732-18-5	50 - 100
Hydrochloric acid	7647-01-0	0.3 - 0.999
4-(Aminomethyl)pyrocatechol hydrobromide	16290-26-9	0.01 - 0.099

Non-hazardous ingredients	Proprietary	Balance
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**SECTION 4: First aid measures****Description of first aid measures****General advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Inhalation**

If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Remove to fresh air.

**Eye contact**

Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

**Ingestion**

Get immediate medical advice/attention. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

**Symptoms** Burning sensation.

**Indication of any immediate medical attention and special treatment needed**

**Note to doctors** Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## **SECTION 5: Firefighting measures**

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

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

**Special protective actions for fire-fighters**

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

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

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

**Environmental precautions**

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

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

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

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

**Precautions to prevent secondary hazards**

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

## SECTION 7: Handling and storage

### Precautions for safe handling

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

**General hygiene considerations** Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

### Conditions for safe storage, including any incompatibilities

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

**Incompatible materials** Acids. Bases. Oxidising agent.

## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Exposure Limits

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Hydrochloric acid 7647-01-0	Ceiling: 5 ppm Ceiling: 7.5 mg/m <sup>3</sup>	Ceiling: 2 ppm	TWA: 1 ppm TWA: 2 mg/m <sup>3</sup> STEL: 5 ppm STEL: 8 mg/m <sup>3</sup>	5 ppm Peak 7.5 mg/m <sup>3</sup> Peak

**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** Face protection shield. Tight sealing safety goggles.

**Hand protection** Impervious gloves. Wear suitable gloves.

**Skin and body protection** Long sleeved clothing. Chemical resistant apron. Wear suitable protective clothing.

**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.

**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	1.1	
Melting point / freezing point	0 °C	
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable.	
Oxidising properties	Not applicable.	
<u>Other information</u>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

## 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

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

**Conditions to avoid**

**Conditions to avoid** Exposure to air or moisture over prolonged periods.

**Incompatible materials**

**Incompatible materials** Acids. Bases. Oxidising agent.

**Hazardous decomposition products**

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

**SECTION 11: Toxicological information****Acute toxicity****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	(based on components). Corrosive to the eyes and may cause severe damage including blindness. Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	Corrosive. (based on components). Causes burns. Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Specific test data for the substance or mixture is not available.

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

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

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Hydrochloric acid	238 - 277 mg/kg ( Rat )	> 5010 mg/kg ( Rabbit )	= 1.68 mg/L ( Rat ) 1 h

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

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes burns.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

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

### Carcinogenicity

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

Chemical name	New Zealand	IARC
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.  
**Respiratory irritation** Based on available data, the classification criteria are not met.  
**Narcotic effects** Based on available data, the classification criteria are not met.

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

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

## SECTION 12: Ecological information

### Ecotoxicity

#### Ecotoxicity

#### Aquatic ecotoxicity

**Unknown aquatic toxicity** 0.007 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Hydrochloric acid	-	LC50: =282mg/L (96h, Gambusia affinis)	-

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability** No information available.

### Bioaccumulative potential

**Bioaccumulation** No information available.

### Mobility in soil

### Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### Waste treatment methods

**Contaminated packaging** For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the



substance that it contained, taking into account the material the package is manufactured from

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance)

## SECTION 14: Transport information

**IATA** Not regulated

**IMDG** Not regulated

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

No information available

## SECTION 15: Regulatory information

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

### National regulations

#### **New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Hydrochloric acid - 7647-01-0	6.1B (All),6.1B (I),6.1D (D),6.1D (O),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1B (All),6.1B (I),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1D (All),6.1D (O),8.1A,8.2B,8.3A,9.3C 6.1E (All),6.1E (D),6.1E (O),8.1A,8.2C,8.3A 6.1E (All),6.1E (O),6.3A,6.4A

### **National regulations**

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

### **Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

### **International Inventories**

Contact supplier for inventory compliance status

### **Legend:**

### **International Regulations**

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

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

The Rotterdam Convention Not applicable

## SECTION 16: Other information

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

**Revision date** 27-Aug-2021

**Revision Note** Significant changes throughout SDS. Review all sections.

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

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

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

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

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

### Disclaimer

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

**End of Safety Data Sheet**