



# SAFETY DATA SHEET

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

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

### Other means of identification

**Catalogue Number(s)** 1956076

**Pure substance/mixture** Mixture

### 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 Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

For further information, please contact

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

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Singapore: 65-31581349

## SECTION 2: Hazards identification

### GHS Classification

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

### Label elements

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

### Other hazards which do not result in classification

## SECTION 3: Composition/information on ingredients

### Substance

Not applicable

**Mixture**

Chemical name	EC No	CAS No	Weight-%
Water	231-791-2	7732-18-5	50 - 100
Isopropyl alcohol	200-661-7	67-63-0	5 - 10
Diammonium phosphate	231-987-8	7783-28-0	0.3 - 0.999
Citric acid	201-069-1	77-92-9	0.1 - 0.299
Phosphoric acid	231-633-2	7664-38-2	0.01 - 0.099

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 physician.
<b>Skin contact</b>	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
<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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**For emergency responders**

<b>Self-protection of the first aider</b>	No information available.
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**Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</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**

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

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Ensure adequate ventilation.

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

### Environmental precautions

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

### Methods and material for containment and cleaning up

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

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

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

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

## SECTION 7: Handling and storage

### Precautions for safe handling

**Advice on safe handling** Ensure adequate ventilation.

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

### Conditions for safe storage, including any incompatibilities

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

## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Chemical name	Singapore	ACGIH TLV
Isopropyl alcohol 67-63-0	PEL: 400 ppm PEL: 983 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1230 mg/m <sup>3</sup>	STEL: 400 ppm TWA: 200 ppm
Phosphoric acid 7664-38-2	PEL: 1 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>	STEL: 3 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>

#### Biological occupational exposure limits

Chemical name	Singapore	ACGIH
Isopropyl alcohol 67-63-0	No data available	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).

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

**Hand protection**                              Wear suitable gloves.

**Respiratory protection**                      No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**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

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
<b>pH</b>	5.5	
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	93 °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

**Other information**                                      No information available

### **SECTION 10: Stability and reactivity**

#### **Reactivity**

**Reactivity**                                      No information available.

#### **Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

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

**Conditions to avoid**

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

**Incompatible materials**

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

**Hazardous decomposition products**

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

## SECTION 11: Toxicological information

**Information on likely routes of exposure**

**Product Information**

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

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

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

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

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** No information available.

**Acute toxicity**

**Numerical measures of toxicity**

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)** 1,301.80 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
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#### 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>Respiratory or skin sensitization</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>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Classification not possible.

## **SECTION 12: Ecological information**

### Ecotoxicity

#### Ecotoxicity

**Unknown aquatic toxicity** Contains 0 % of components with 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> )

### Persistence and degradability

**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**

**Mobility in soil** No information available.

**PBT and vPvB assessment**

Chemical name	PBT and vPvB assessment
Isopropyl alcohol	The substance is not PBT / vPvB PBT assessment does not apply
Diammonium phosphate	The substance is not PBT / vPvB PBT assessment does not apply
Citric acid	The substance is not PBT / vPvB
Phosphoric acid	The substance is not PBT / vPvB PBT assessment does not apply

**Other adverse effects**

**Other adverse effects** No information available

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

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

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

**SECTION 14: Transport information**

**ADR** Not regulated

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

**IATA** Not regulated

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

Chemical name	Hazardous Substances	transport
Phosphoric acid	Exclusions: Substances containing <=50%, weight in weight, of Phosphoric acid	

**Environmental Public Health Act**

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

**Fire Safety (Petroleum and Flammable Materials) Regulations**

Verify that licence requirements are met.

Chemical name	Regulated	Hazard class
Isopropyl alcohol	SCDIPA1219L2	3

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

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

**Poison**

None Listed

**Workplace Safety and Health Act**

See section 8 for national exposure control parameters. Comply with the health and safety at work laws.

**International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories**

Contact supplier for inventory compliance status

**SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (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



**Label elements****Issuing Date** Bio-Rad Laboratories, Environmental Health and Safety**Revision date** 27-Aug-2021**Revision Note** Significant changes throughout SDS. Review all sections.**This safety data sheet complies with the requirements of: SS586: 2008 (2014)****Disclaimer**

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

**End of Safety Data Sheet**