



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
GB/T 16483-2008, GB/T 17519-2013

Product Name UCAT by HPLC Mobile Phase

Revision date 27-Aug-2021

Revision Number 3.1

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

Product identifier

Product Name UCAT by HPLC Mobile Phase

Catalogue Number(s) 1956073

Other means of identification

Pure substance/mixture Mixture

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

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Pathumwan, Bangkok 10330
Thailand

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

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Hong Kong: 800-968-793

Recommended use of the chemical and restrictions on use

Recommended use In-vitro laboratory reagent or component

SECTION 2: Hazards identification

Emergency Overview

No significant adverse health effects

Appearance No information available

Physical state Liquid

Odour Odourless

Classification of the substance or mixture

Reproductive toxicity

Category 1B

Label elements

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Signal word

Danger

Hazard statements

May damage fertility or the unborn child

Precautionary statements

Prevention

Do not handle until all safety precautions have been read and understood

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

Response

IF exposed or concerned: Get medical advice/attention

Disposal

Dispose of contents/container to an approved waste disposal plant

Physical and chemical hazards

Not applicable.

Health hazards

Immediate Health Effects: Not applicable.

Chronic effects: Contains a known or suspected reproductive toxin.

Environmental hazards

Not applicable

Other hazards which do not result in classification

Not applicable

SECTION 3: Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	Weight-%	CAS No
Water	50 - 100	7732-18-5
Isopropyl alcohol	5 - 10	67-63-0
Diammonium phosphate	0.3 - 0.999	7783-28-0
Citric acid	0.1 - 0.299	77-92-9
Boric acid (H ₃ BO ₃)	0.1 - 0.299	10043-35-3
Phosphoric acid	0.01 - 0.099	7664-38-2

SECTION 4: First aid measures

Description of necessary first aid measures

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General advice	Show this safety data sheet to the doctor in attendance.
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.
<u>Most important symptoms and effects, both acute and delayed</u>	No information available.
<u>For emergency responders</u>	No information available.
<u>Note to doctors</u>	Treat symptomatically.

SECTION 5: Firefighting measures

Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.
<u>Specific hazards arising from the chemical</u>	No information available.
<u>Special protective actions for fire-fighters</u>	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.
<u>Environmental precautions</u>	See Section 12 for additional Ecological Information.
<u>Methods and material for containment and cleaning up</u>	Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers.
<u>Precautions to prevent secondary hazards</u>	Clean contaminated objects and areas thoroughly observing environmental regulations.

SECTION 7: Handling and storage

<u>Precautions for safe handling</u>	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. Remove contaminated clothing and shoes. Do not eat, drink or smoke when using this product.
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Wash hands before breaks and immediately after handling the product. See Section 8 for information on appropriate personal protective equipment.

Conditions for safe storage, including any incompatibilities

Store locked up. Store according to product and label instructions.

Incompatible materials

None known based on information supplied.

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

Chemical name	China	ACGIH TLV
Isopropyl alcohol - 67-63-0	TWA: 350 mg/m ³ STEL: 700 mg/m ³	STEL: 400 ppm TWA: 200 ppm
Boric acid (H3BO3) - 10043-35-3	-	STEL: 6 mg/m ³ inhalable particulate matter TWA: 2 mg/m ³ inhalable particulate matter
Phosphoric acid - 7664-38-2	TWA: 1 mg/m ³ STEL: 3 mg/m ³	STEL: 3 mg/m ³ TWA: 1 mg/m ³

Note See section 16 for terms and abbreviations

Biological occupational exposure limits

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

Chemical name	Biological standards	Monitoring and observation processes	ACGIH
Isopropyl alcohol - 67-63-0			40 mg/L - urine (Acetone) - end of shift at end of workweek

Monitoring and observation processes

No applicable information was found.

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.

General hygiene considerations

Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

SECTION 9: Physical and chemical properties

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Information on basic physical and chemical properties

Appearance	
Colour	No information available
Physical state	Liquid
Odour	Odourless
Odour threshold	No information available

Property	Values	Remarks • Method
pH	5-6	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	97 °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	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Additional information

Explosive properties	Not applicable
Oxidising properties	Not applicable

SECTION 10: Stability and reactivity

<u>Stability</u>	Stable under normal conditions.
<u>Possibility of hazardous reactions</u>	None under normal processing.
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
<u>Conditions to avoid</u>	None known based on information supplied.
<u>Incompatible materials</u>	None known based on information supplied.
<u>Hazardous decomposition products</u>	None known based on information supplied.

SECTION 11: Toxicological information

Acute toxicity

Numerical measures of toxicity

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

ATEmix (oral) 33,693.70 mg/kg

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ATEmix (dermal) 73,135.10 mg/kg
 ATEmix (inhalation-dust/mist) 1,308.1081 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 ³ (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)	-
Boric acid (H3BO3)	= 2660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 0.16 mg/L (Rat) 4 h
Phosphoric acid	= 1530 mg/kg (Rat)	= 2740 mg/kg (Rabbit)	> 850 mg/m ³ (Rat) 1 h

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

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

Respiratory or skin sensitisation 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	China	IARC
Isopropyl alcohol	-	Group 3
Boric acid (H3BO3)	-	Group 2A

Legend

IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

Specific target organ toxicity — single exposure Based on available data, the classification criteria are not met.

Specific target organ toxicity — repeated exposure Based on available data, the classification criteria are not met.

Target organ effects Respiratory system. Eyes. Skin.

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

SECTION 12: Ecological information

Ecotoxicity

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Unknown aquatic toxicity 0.01 % 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>)
Boric acid (H3BO3)	-	LC50: =1020mg/L (72h, <i>Carassius auratus</i>)	EC50: 115 - 153mg/L (48h, <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 No information available.

Bioaccumulative potential There is no data for this product.

Component Information

Chemical name	Partition coefficient
Isopropyl alcohol	0.05
Citric acid	-1.72
Boric acid (H3BO3)	-0.757

Mobility in soil No information available.

SECTION 13: Disposal considerations

Waste chemicals 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

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

IATA Not regulated

China Not regulated

Special precautions for user

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Please refer to the applicable dangerous goods regulations for additional information

SECTION 15: Regulatory information

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

National regulations

Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Catalogue of occupational hazard factors:

Listed. Chemical hazards.

Catalogue of occupational diseases:

Listed. Occupational poisoning.

Chemical name	Category
Isopropyl alcohol	Chemical hazards

Regulations on the Control over Safety of Hazardous Chemicals

Inventory of hazardous chemicals

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed.

Weight-% 6

Chemical name	Inventory of hazardous chemicals
Isopropyl alcohol	Listed
Boric acid (H ₃ BO ₃)	Listed
Phosphoric acid	Listed

GB 18218-2009 Identification of major hazard installations for dangerous chemicals

Not applicable

List of hazardous chemicals under priority management

Not applicable

Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used

Inventory of highly toxic goods

Not applicable

Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

List of toxic chemicals severely restricted for import and export in China

Not applicable

Measures for the Environmental Management of New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances Contact supplier for inventory compliance status.

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

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Revision Note Significant changes throughout SDS. Review all sections.

Abbreviations and acronyms

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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

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End of Safety Data Sheet