



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 27-Aug-2021

Revision Number 1.1

1. IDENTIFICATION

Product identifier

Product Name UMETS by HPLC Transfer Buffer

Other means of identification

Catalogue Number(s) 1956044

Registration Number(s) No information available

Recommended use of the chemical and restrictions on use

Recommended use In-vitro laboratory reagent or component

Supplier's details

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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Bio-Rad Laboratories (Pty) Ltd.
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South Africa: 27-11-442-85-08
India: support.india@bio-rad.com
South Africa: cdg_techsupport_eemea@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC India: 000-800-100-7141
CHEMTREC South Africa: 0-800-983-611

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Acute toxicity - Oral	Category 5
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 2

GHS Label elements, including precautionary statements



Signal word



Danger

**Hazard statements**

May be harmful if swallowed
 Causes severe skin burns and eye damage
 May cause respiratory irritation
 Toxic to aquatic life with long lasting effects

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray
 Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Use only outdoors or in a well-ventilated area
 Avoid release to the environment

Precautionary Statements - Response

Call a POISON CENTER or doctor/physician if you feel unwell
 Immediately call a POISON CENTER or doctor
 Specific treatment (see .? on this label)

Eyes

Immediately call a POISON CENTER 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 CENTER or doctor

Call a POISON CENTER or doctor if you feel unwell

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Spill

Collect spillage

Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other hazards which do not result in classification

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical name	CAS No	Weight-%
Water	7732-18-5	92.86
Ammonium hydroxide	1336-21-6	7.14

1336-21-6

4. FIRST AID MEASURES**Description of necessary 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.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
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.
Ingestion	Get immediate medical advice/attention. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person.

For emergency responders

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).
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Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
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Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. 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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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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Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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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 vapors.
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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.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

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

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 labeled containers.

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

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

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 before reuse. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment.

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.

Incompatible materials Acids. Bases. Oxidizing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure 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.

Skin and body protection	Long sleeved clothing. Chemical resistant apron. Wear suitable protective clothing.
Hand protection	Impervious gloves. 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	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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odour	Ammonia-like odour
Appearance	aqueous solution	Odour threshold	No information available
Colour	white		
Property	Values	Remarks • Method	
pH	11.9		
Melting point / freezing point		No information available	
Boiling point / boiling range	100 °C / 212 °F		
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			
Water solubility	Miscible in water		
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity			
Kinematic viscosity		No information available	
Dynamic viscosity			

Other information

Oxidising properties	Not applicable
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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**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. Oxidizing agent.**Hazardous decomposition products****Hazardous decomposition products** None known based on information supplied.**11. TOXICOLOGICAL INFORMATION****Information on the 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. May cause irritation of respiratory tract. May cause drowsiness or dizziness.

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. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Acute toxicity**Numerical measures of toxicity**

7.14 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

7.14 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

7.14 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

7.14 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

The following values are calculated based on chapter 3.1 of the GHS document
 ATEmix (oral) 4,901.9608 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 and also chronic effects from short and long term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Causes burns.
Serious eye damage/irritation	Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	May cause respiratory irritation. May cause drowsiness or dizziness.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Toxicity

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

Ecotoxicity Toxic to aquatic life.

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

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility

Mobility in soil No information available.

Mobility No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Disposal 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.

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
RID	Not regulated
ADR	Not regulated
ADN	Not regulated
Special precautions for user	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

15. REGULATORY INFORMATION

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

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

16. OTHER INFORMATION

Prepared By	Bio-Rad Laboratories, Environmental Health and Safety
Revision date	27-Aug-2021
Revision Note	*** Indicates this information has changed since the previous revision.

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		

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