



# SAFETY DATA SHEET

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

**Product Name** UMETS by HPLC Internal Standard

**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

**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

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

CORROSIVE - CAUSES IRREVERSIBLE EYE (AND SKIN) DAMAGE  
Risk of serious damage to eyes

**Appearance** aqueous solution **Physical state** Liquid **Odour** Odourless

### Classification of the substance or mixture

|  |            |
|--|------------|
| <b>Skin corrosion/irritation</b>                           | Category 1 |
| <b>Serious eye damage/eye irritation</b>                   | Category 1 |
| <b>Hazardous to the Aquatic Environment - Acute Hazard</b> | Category 3 |

### Label elements

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**Signal word**

Danger

**Hazard statements**

Causes severe skin burns and eye damage  
Harmful to aquatic life

**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

**Response**

Immediately call a POISON CENTRE or doctor  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Immediately call a POISON CENTRE or doctor  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
Wash contaminated clothing before reuse  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTRE or doctor  
IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Contact may cause burns to skin and eyes. Risk of serious damage to eyes. Impairment of vision.  
Chronic effects: Not applicable.

**Environmental hazards**

This material is a water pollutant. Keep out of drains, sewers, ditches and waterways. Minimise use of water to prevent environmental contamination

**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 |

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|  |              |           |
|--|--------------|-----------|
| Hydrochloric acid                      | 0.3 - 0.999  | 7647-01-0 |
| 4-(2-Aminoethyl)guaiacol hydrochloride | 0.01 - 0.099 | 645-33-0  |

## SECTION 4: First aid measures

### Description of necessary 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>Most important symptoms and effects, both acute and delayed</b> | Burning sensation.   |
| <b>For emergency responders</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).   |
| <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.  |

## SECTION 5: Firefighting measures

### Extinguishing media

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>                 | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                                 |
| <b>Unsuitable extinguishing media</b>               | No information available.   |
| <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. |
| <b>Special protective actions 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. |
| <b>Other information</b>   | Refer to protective measures listed in Sections 7 and 8.  |
| <b>For emergency responders</b>                                    | Use personal protection recommended in Section 8.   |
| <b><u>Environmental precautions</u></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.   |
| <b><u>Methods and material for containment and cleaning up</u></b> | Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers.   |
| <b><u>Precautions to prevent secondary hazards</u></b>             | Clean contaminated objects and areas thoroughly observing environmental regulations.  |

## SECTION 7: Handling and storage

|  |   |
|--|---|
| <b><u>Precautions for safe handling</u></b>                                | 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. 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. See Section 8 for information on appropriate personal protective equipment. |
| <b><u>Conditions for safe storage, including any incompatibilities</u></b> | 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.   |
| <b>Incompatible materials</b>  | Acids. Bases. Oxidising agent.  |

## SECTION 8: Exposure controls/personal protection

### Occupational exposure limits

| Chemical name                 | China                                  | ACGIH TLV      |
|-------------------------------|--|----------------|
| Hydrochloric acid - 7647-01-0 | Ceiling: 7.5 mg/m <sup>3</sup> Ceiling | Ceiling: 2 ppm |

**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

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### 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            | 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. |

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

### Information on basic physical and chemical properties

|                 |                          |
|-----------------|--------------------------|
| Appearance      | aqueous solution         |
| Colour          | colourless               |
| Physical state  | Liquid                   |
| Odour           | Odourless                |
| Odour threshold | No information available |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| 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              | No data available | None known              |
| Kinematic viscosity                    | No data available | None known              |
| Dynamic viscosity                      | No data available | None known              |

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**Additional information**

Explosive properties Not applicable  
Oxidising properties Not applicable

**SECTION 10: Stability and reactivity**

**Stability** Stable under normal conditions.

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

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

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

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

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

**SECTION 11: Toxicological information**

**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 |

**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.

**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    |
|-------------------|-------|---------|
| Hydrochloric acid | -     | 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.

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

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single exposure

**Specific target organ toxicity — 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** Harmful to aquatic life.

**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, <i>Gambusia affinis</i> ) | -         |

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

**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**  
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

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**(M)SDS Number**

HRCD04149

Catalogue of occupational hazard factors:

Listed. Chemical hazards.

Catalogue of occupational diseases:

Listed. Occupational poisoning.

| Chemical name     | Category         |
|-------------------|------------------|
| Hydrochloric acid | 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-% 0

| Chemical name     | Inventory of hazardous chemicals |
|-------------------|----------------------------------|
| Hydrochloric acid | Listed                           |

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

| Chemical name     | Threshold quantity (T) |
|-------------------|------------------------|
| Hydrochloric acid | 20                     |

**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**

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))

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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**