

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifiers**

Product Name : 1.0 M Citric acid
Product Number : HR2-831
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS Number : 77-92-9

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Details of the supplier of the Safety Data Sheet

Company : Hampton Research
34 Journey
Aliso Viejo, CA 92656-3317
United States
Telephone : 949 425 1321
Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.
Fax : 949 425 1611
Fax Technical Support is available 24 hours a day.
e-mail : tech@hrmail.com
e-mail Technical Support is available 24 hours a day.

1.4 Emergency telephone number

Emergency phone : 949 425 1321
For **CHEMTREC** Assistance : 800 424 9300
For **CHEMTREC** Assistance : 703 527 3887 (International)

SECTION 2: Hazards Identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Eye irritation (Category 2)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Irritating to eyes.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

(CONTINUED) - SECTION 2: Hazards Identification

Pictogram



Signal word

: Warning

Hazard statement(s)

H319

: Causes serious eye irritation.

Precautionary statement(s)

P305 + P351 + P338

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

Supplemental Hazard Statements

: none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrases(s)

R36

: Irritating to eyes.

S-phrases(s)

S26

: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

2.3 Other hazards - none

SECTION 3: Composition/Information on Ingredients

3.1 Substances

Synonym	: Citric acid anhydrous
Formula	: $C_6H_8O_7$ or $HOC(COOH)(CH_2COOH)_2$
Molecular Weight	: 192.13
CAS Number	: 77-92-9
EC Number	: 201-069-1

RTECS	Merck	Beilstein	SARA	MDL #	PubChem Substance ID
GE7350000	14,2326	782061	No	MFCD00011669	24856611

Component			Concentration
Citric acid			
CAS-No.	77-92-9		-
EC-No.	201-069-1		

SECTION 4: First Aid Measures

4.1 Description of first aid measures

General Advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes as a precaution and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Vomiting, Diarrhoea, Damage to tooth enamel., Dermatitis. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. The most important known symptoms and effects are described in the labeling (see Section 2.2) and/or in Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further Information

no data available

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Ensure adequate ventilation. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

(CONTINUED) - SECTION 6: Accidental Release Measures

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and Storage

7.1 Personal Precautions

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Normal measures for preventive fire protection.

For precautions see section 2.2. Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Immersion protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 480 min

Material tested:Dermatril® (Aldrich Z677272, Size M)

(CONTINUED) - SECTION 8: Exposure Controls/Personal Protection

Splash protection
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: > 30 min
Material tested: Dermatrill® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de,
test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: Fine Crystals	Color: White
b) Odor	no data available	
c) Odor Threshold	no data available	
d) pH	1.2 - 1.5 at 25°C	
e) Melting point/freezing point	153 - 159°C (lit.)	
f) Initial boiling point and boiling range	no data available	
g) Flash point	no data available	
h) Evaporation rate	no data available	
i) Flammability (solid, gas)	no data available	
j) Upper/lower flammability or explosive limits	no data available	
k) Vapor pressure	no data available	
l) Vapor density	no data available	
m) Relative density	no data available	
n) Water solubility	no data available	

(CONTINUED) - SECTION 9: Physical and Chemical Properties

- | | |
|---|-------------------|
| o) Partition coefficient:
noctanol/water | no data available |
| p) Autoignition temperature | no data available |
| q) Decomposition
temperature | no data available |
| r) Viscosity | no data available |
| s) Explosive properties | no data available |
| t) Oxidizing properties | no data available |

9.2 Other safety information

- | | |
|-------------------------|-------------------|
| Surface tension | no data available |
| Relative vapour density | no data available |

SECTION 10: Stability and Reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Oxidizing agents, Bases, Reducing agents, Nitrates

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 5.400 mg/kg

LD50 Dermal - rat - > 2.000 mg/kg

Skin irritation / corrosion

Skin - rabbit - Mild skin irritation - OECD Test Guideline 404

(CONTINUED) - SECTION 11: Toxicological Information

Serious eye damage/eye irritation

Eyes - rabbit - Irritating to eyes. - OECD Test Guideline 405

Respiratory or skin sensitization

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Germ cell mutagenicity

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	Causes serious eye irritation.

Signs and Symptoms of Exposure

Vomiting, Diarrhoea, Damage to tooth enamel., Dermatitis. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional information

RTECS: GE7350000

SECTION 12: Ecological Information

12.1 Toxicity

Toxicity to fish mortality LC50 - Leuciscus idus melanotus - 440 mg/l - 48 h
Method: OECD Test Guideline 203

Toxicity to daphnia and static test - Daphnia magna (Water flea) - 1.535 mg/l - 24 h
other aquatic
invertebrates

(CONTINUED) - SECTION 12: Ecological Information

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13: Disposal Considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transportation Information

14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

no data available

SECTION 15: Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other Information

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For research use only. Not for drug, household, or other use.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of this product. Hampton Research Corp., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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