



Safety Data Sheet CITRIC ACID

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

Product name CITRIC ACID
Product code MI11350
Norway Pr. no. 76247
Denmark Pr. no.: 701692

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

Recommended Use pH modifier
Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
M-I Australia Pty Ltd
ABN: 67 009 214 162
Level 5
256 St. George Tce
Perth
WA 6000
T = +61 08 9440 2900
F = +61 08 9322 3080
+47 51577424
MISDS@slb.com

1.4 Emergency Telephone Number

Emergency telephone - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to (EC) No. 1272/2008

Health hazards

Serious eye damage/eye irritation	Category 2
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Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements



Signal word
WARNING

Hazard statements

H319 - Causes serious eye irritation

Precautionary Statements - EU (§28, 1272/2008)

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/ attention

P501 - Dispose of contents/container in accordance with local regulations.

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Contains

Citric acid, monohydrate

2.3 Other data

Not classified as PBT/vPvB by current EU criteria

Australian statement of hazardous/dangerous nature

Classified as Hazardous according to the criteria of NOHSC.

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3. Composition/information on ingredients

3.1 Substances

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Citric acid, monohydrate		5949-29-1	100	Xi; R36	Eye Irrit. 2 (H319)	No data available

3.2 Mixtures

Not Applicable

4. First aid measures

4.1 First-Aid Measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation persists.
Eye contact	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses. Continue to rinse for at least 15 minutes. Get medical attention immediately if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

General advice The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

Main symptoms

Inhalation Please see Section 11. Toxicological Information for further information.

Ingestion Please see Section 11. Toxicological Information for further information.

Skin contact Please see Section 11. Toxicological Information for further information.

Eye contact Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Fog, Alcohol Foam, CO₂, Dry Chemical.

Extinguishing media which shall not be used for safety reasons

None known.

5.2 Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

Dust may form explosive mixture in air.

Hazardous combustion products

Fire or high temperatures create: Carbon oxides (COx).

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Use personal protective equipment. See also section 8. If spilled, take caution, as material can cause surfaces to become very slippery.

6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

Environmental exposure controls

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and storage

7.1 Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Remove all sources of ignition. If spilled, take caution, as material can cause surfaces to become very slippery.

Hygiene measures

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions	Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Keep away from heat, sparks, and flame.
Storage precautions	Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid contact with: Strong oxidizing agents Strong alkalies. Protect from moisture
Storage class	Chemical storage.
Packaging material	Use specially constructed containers only

7.3 Specific end uses

See Section 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Exposure limits

NUI = Nuisance dust, TWA 4mg/m³ Respirable Dust, 10mg/m³ Total Dust.
No biological limit allocated

Component	EU OEL	Austria	Australia	Denmark
Citric acid, monohydrate	Not determined	Not determined	Not determined	Not determined

Component	Malaysia	France	Germany	Hungary
Citric acid, monohydrate	Not determined	Not determined	Not determined	Not determined

Component	New Zealand	Italy	Netherlands	Norway
Citric acid, monohydrate	Not Determined	Not determined	Not determined	Not determined

Component	Poland	Portugal	Romania	Russia
Citric acid, monohydrate	Not determined	Not determined	Not determined	Not determined

Component	Spain	Switzerland	Turkey	UK
Citric acid, monohydrate	Not determined	Not determined	Not determined	Not determined

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering measures to reduce exposure

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

Personal protective equipment

Eye protection

It is good practice to wear Safety Glasses with Side-shields when handling any chemical.

Hand protection

Repeated or prolonged contact: Use protective gloves made of: Butyl, PVC, Frequent change is advisable.

Respiratory protection

Respirator must be worn if exposed to dust, Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

Skin and body protection

Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

Hygiene measures

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Crystalline Dust
Odor	Odorless
Color	White
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	No information available	
pH @ dilution	1.6	@ 100 g/l
Melting/freezing point	153 °C / 307.4 °F	
Boiling point/range	No information available	
Flash point	No information available	
Evaporation rate (BuAc =1)	No information available	
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Bulk density	900 kg/m ³	
Relative density	1.542 g/cm ³	@ 20°C.
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	1010 °C / 1850 °F	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Log Pow	No information available	
Explosive properties	Not Applicable	
Oxidizing properties	None known.	

9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	None
Density	No information available

10. Stability and reactivity

10.1 Reactivity

Dust may form explosive mixture in air.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization

Hazardous polymerization does not occur.

10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition. Avoid dust formation. Protect from moisture.

10.5 Incompatible materials

Strong oxidizing agents. Strong alkalies.

10.6 Hazardous decomposition products

See also section 5.2.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	May cause irritation of respiratory tract.
Eye contact	Causes serious eye irritation.
Skin contact	Prolonged contact may cause redness and irritation.
Ingestion	Ingestion may cause stomach discomfort.
Unknown acute toxicity	Not Applicable.

LD50 Oral 3000 mg/kg (rat)

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Citric acid, monohydrate	No data available	No data available	No data available

Sensitization This product does not contain any components suspected to be sensitizing.

Mutagenic effects This product does not contain any known or suspected mutagens.

Carcinogenicity This product does not contain any known or suspected carcinogens.

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

Routes of exposure None known.

Routes of entry No route of entry noted.

Specific target organ toxicity (single exposure) Not classified
Specific target organ toxicity (repeated exposure) Not classified.
Aspiration hazard No hazard from product as supplied.

12. Ecological information

12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Listed on PLONOR list of OSPAR

Toxicity to algae
See component information below.

Toxicity to fish
See component information below.

Toxicity to daphnia and other aquatic invertebrates
See component information below.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Citric acid, monohydrate	1516 mg/L LC50 (Lepomis macrochirus) = 96 h	No information available	120 mg/L EC50 (Daphnia magna) = 72 h

12.2 Persistence and degradability

No product level data available.

12.3 Bioaccumulative potential

No product level data available.

12.4 Mobility in soil

Mobility
Soluble in water.

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

13. Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken for local recycling, recovery or waste disposal.
EWC Waste disposal No.	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 07 01 99. Waste Code: 7134 organic acids.

14. Transport information

14.1 UN Number

Not regulated

14.2 Proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class	Not regulated
IMDG Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing group	Not regulated
IMDG Packing group	Not regulated
ICAO Packing group	Not regulated

14.5 Environmental hazard

No

14.6 Special precautions

Not Applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Please contact MISDS@slb.com for info regarding transport in Bulk.

15. Regulatory information

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

Germany, Water Endangering Classes (VwVwS) Water endangering class = 1

Australian Standard for the Uniform Scheduling of Drugs and Poisons
No Poisons Schedule number allocated

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)

The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP) International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

Contact REACH@miswaco.slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse

Supersedes date 28/Feb/2013

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Version 7

The following sections have been revised: This SDS have been made in a new database and therefore a new layout. No changes with regard to classification have been made, Updated according to GHS/CLP.

Text of R phrases mentioned in Section 3

R36 - Irritating to eyes

Full text of H-Statements referred to under sections 2 and 3

H319 - Causes serious eye irritation

Disclaimer

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.