



Safety Data Sheet

Citric Acid, anhydrous

Revision 6, 22/08/2024

1. IDENTIFICATION

Product Name	Citric acid, anhydrous
Other Names	1,2,3-Propanetricarboxylic acid, 2-hydroxy; 2-Hydroxy-1,2,3-propanetricarboxylic acid; 2-Hydroxypropane-1,2,3-tricarboxylic acid
Uses	Food applications.
Chemical Family	No Data Available
Chemical Formula	C ₆ H ₈ O ₇
Chemical Name	1,2,3-Propanetricarboxylic acid, 2-hydroxy-
Product Description	Organic acid

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Aurora Cleaning Supplies	F1 / 5 Bungaleen Court Dandenong South VIC 3175	03 9768 2669

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not Scheduled

Globally Harmonised System

Hazard Classification

Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Irritation - Category 2A

Specific Target Organ Toxicity (Single Exposure) - Category 3

Pictograms**Signal Word**

Warning

Hazard Statements

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

Precautionary Statements

Prevention

P280

Wear protective gloves/eye protection/face protection.

P261

Avoid breathing dust.

P271

Use only outdoors or in a well-ventilated area.

Response

P302 + P352

IF ON SKIN: Wash with plenty of water.

P337 + P313

If eye irritation persists: Get medical advice.

P312

Call a POISON CENTER or doctor if you feel unwell.

P332 + P313

If skin irritation occurs: Get medical advice.

P362

Take off contaminated clothing.

P305 + P351 + P338

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

Storage

P304 + P340

IF INHALED: Remove victim to fresh air and keep comfortable for breathing.

P403 + P233

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

P405

Store locked up.

Disposal

P501

Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification

NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications

Health
Hazards

6.1E

Substances that are acutely toxic –May be harmful, Aspiration hazard

8.3A

Substances that are corrosive to ocular tissue

3. COMPOSITION/INFORMATION ON INGREDIENTS**Ingredients**

Chemical Entity	Formula	CAS Number	Proportion
Citric acid	C6H8O7	77-92-9	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth with water, then drink plenty of water. Do NOT induce vomiting. Get medical advice/attention.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Combustible material; May burn but does not ignite readily.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction.
Fire and Explosion Hazard	Avoid generating dust; Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Hazardous Products of Combustion	Fire may produce irritating and/or toxic gases, including oxides of Carbon.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
Flash Point	345 °C
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. ELIMINATE all ignition sources (if dust clouds can occur). Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Collect material (sweep or vacuum up) and place into suitable containers for disposal (see SECTION 13). Avoid dispersal of dust in the air (i.e. clearing dusty surfaces with compressed air). Non-sparking tools should be used.
Containment	Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination	Neutralise residues with lime or soda ash; Wash away remainder with plenty of water.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from moisture. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10). Store locked up.
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard for Nuisance dusts: 8 hr TWA = 10 mg/m ³ (measured as inhalable dust). - New Zealand WES for Particulates not otherwise classified: TWA = 10 mg/m ³ ; TWA = 3 mg/m ³ (respirable dust). - OSHA PEL for Particulates not otherwise regulated: TWA = 15 mg/m ³ (total); TWA = 5 mg/m ³ (respirable).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists. Recommended: Dust mask/particulate filter respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Chemical goggles. - Hand protection: Wear protective gloves. Recommended: Impervious gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline powder or granular
Odour	Odourless
Colour	Colourless to white
pH	2.0 - 2.5 (1% solution)
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	Decomposes before boiling
Melting Point	ca. 153 °C
Freezing Point	No Data Available
Solubility	Soluble in water (590 g/L) 20°C
Specific Gravity	1.665

Flash Point	345 °C
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Avoid generating dust; Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Combustible material; May burn but does not ignite readily.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating and/or toxic gases, including oxides of Carbon.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	Reacts exothermically with alkalis.
Chemical Stability	Stable under normal storage and handling conditions.
Conditions to Avoid	Avoid generating dust. Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with strong oxidising agents, alkalis, carbon steel.
Hazardous Decomposition Products	Fire/decomposition may produce irritating and/or toxic gases, including oxides of Carbon.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	- Acute toxicity: No adverse health affects expected; Swallowing (large amounts) may cause abdominal pain, nausea, vomiting and irritation to the mouth and throat. Physiological disturbances may include acidosis and calcium deficiency; The substance may have effects on the teeth, resulting in erosion. - Skin corrosion/irritation: Causes skin irritation, redness.
---------------------	--

- Eye damage/irritation: Causes serious eye irritation.
- Respiratory/skin sensitisation: No evidence of sensitisation.
- Germ cell mutagenicity: No evidence of mutagenicity.
- Carcinogenicity: No evidence of carcinogenicity.
- Reproductive toxicity: No evidence of reproductive or developmental toxicity.
- STOT (single exposure): May cause respiratory irritation; Inhalation of citric acid aerosols may induce coughing and broncho-constriction [NICNAS].
- STOT (repeated exposure): Not considered to cause serious damage to health from repeated (oral) exposure [NICNAS].
- Aspiration toxicity: No information available.

Acute**Ingestion**

Acute toxicity (Oral):
- LD50, Mouse: 5,400 - 5,790 mg/kg [equiv. OECD TG 401; ECHA].
- LD50, Rat: 11,700 mg/kg [equiv. OECD TG 401; ECHA].

Other

Acute toxicity (Dermal):
- LD50, Rats: >2,000 mg/kg bw. [NICNAS].

Carcinogen Category

None

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Aquatic toxicity:
- LC50, Fish (*Leuciscus idus melanotus*): 440 mg/L (48 h) [ECHA].
- EC50, Crustacea (*Daphnia magna*): 1,535 mg/L (24 h) mobility [ECHA].

Persistence/Degradability

Readily biodegradable.

Mobility

No information available.

Environmental Fate

Prevent entry into drains and waterways.

Bioaccumulation Potential

Low potential for bioaccumulation.

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

Dispose of contents/container in accordance with local/regional/national regulations.

Special Precautions for Land Fill

No information available.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name

Citric acid, anhydrous

Class

No Data Available

Subsidiary Risk(s)

No Data Available

No Data Available

UN Number

No Data Available

Hazchem

No Data Available

Pack Group

No Data Available

Special Provision

No Data Available

Comments

NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (China)

Proper Shipping Name	Citric acid, anhydrous
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	Citric acid, anhydrous
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Citric acid, anhydrous
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT

Proper Shipping Name	Citric acid, anhydrous
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	Citric acid, anhydrous
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Citric acid, anhydrous
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
--------------------------------	---

15. REGULATORY INFORMATION

General Information	WCO (World Customs organisation) HS Code: 2918.14
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002503 HSR003138 (Revoked)
---------------	----------------------------------

National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined

China (IECSC)	Listed
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Listed

16. OTHER INFORMATION

[illegible]

Safety Data Sheet, Citric Acid, anhydrous, Revision 6, 22/08/2024

CIACID2502, CIACID2503, CIACID2504, CIACID2505, CIACID2506, CIACID2600, CIACID2601, CIACID2602, CIACID2603, CIACID2700, CIACID2701, CIACID2702, CIACID2703, CIACID2704, CIACID2800, CIACID2801, CIACID2802, CIACID2803, CIACID2850, CIACID3000, CIACID3001, CIACID3002, CIACID3003, CIACID3010, CIACID3015, CIACID3020, CIACID3030, CIACID3031, CIACID3032, CIACID3035, CIACID3050, CIACID3060, CIACID3100, CIACID3101, CIACID3102, CIACID3200, CIACID3201, CIACID3600, CIACID3601, CIACID3610, CIACID3700, CIACID3701, CIACID3800, CIACID3801, CIACID3802, CIACID3803, CIACID3804, CIACID3805, CIACID3810, CIACID3850, CIACID3855, CIACID3900, CIACID3901, CIACID3910, CIACID3911, CIACID4100, CIACID4101, CIACID4102, CIACID4103, CIACID4104, CIACID4200, CIACID4201, CIACID4500, CIACID4501, CIACID4502, CIACID4520, CIACID4530, CIACID4540, CIACID4600, CIACID4601, CIACID4602, CIACID4605, CIACID4620, CIACID4630, CIACID4700, CIACID4701, CIACID4703, CIACID4704, CIACID4720, CIACID4730, CIACID4731, CIACID4800, CIACID4801, CIACID4802, CIACID4805, CIACID4820, CIACID4830, CIACID5000, CIACID5001, CIACID5002, CIACID5100, CIACID5101, CIACID5102, CIACID5200, CIACID5201, CIACID5300, CIACID5400, CIACID5401, CIACID5402, CIACID5500, CIACID5501, CIACID5502, CIACID5510, CIACID5800, CIACID5801, CIACID5900, CIACID5901, CIACID6000, CIACID6001, CIACID6002, CIACID6003, CIACID6004, CIACID6012, CIACID6100, CIACID6101, CIACID6150, CIACID6160, CIACID6200, CIACID6201, CIACID6202, CIACID6300, CIACID6301, CIACID6500, CIACID6501, CIACID6502, CIACID6503, CIACID6504, CIACID6600, CIACID6601, CIACID6700, CIACID6701, CIACID6800, CIACID6801, CIACID6900, CIACID6901, CIACID6902, CIACID6903, CIACID7000, CIACID7100, CIACID7101, CIACID7102, CIACID7200, CIACID7201, CIACID7202, CIACID7203, CIACID7300, CIACID7301, CIACID7302, CIACID7303, CIACID7304, CIACID7305, CIACID7400, CIACID7401, CIACID7600, CIACID7601, CIACID7602, CIACID7700, CIACID7701, CIACID7900, CIACID8000, CIACID8001, CIACID8100, CIACID8400, CIACID8500, CIACID8501, CIACID8502, CIACID8600, CIACID8700, CIACID8800, CIACID8801, CIACID8802, CIACID9100, CIACID9101, CIACID9102, CIACID9200, CIACID9201, CIACID9300, CIACID9500, CIACID9501, CIACID9502, CIACID9600, CIACID9602, CIACID9603, CIACID9604, CIACID9605, CIACID9610, CIACID9620, CIACID9621, CIACID9622, CIACID9800, CIACID9801, CIACID9802, CIACID9803, CIACID9805, CIACID9810, CIACID9900, CIACID9901, CIACID9902, CIACID9903, CIACID9904, CIACID9905, CIACID9906, CIACID9907, CIACID9910, CIACID9920, CIACID9950, CIACIR1000, CIACIR2000, CIACIR3000, CIACIR3500, CIACIR4000, CIACIR4100, CIACIR4200, CIACIT2500, CIACRR5000, CIACRR6000, CIACRR7000

Revision

6

Revision Date

22/08/2024

Key/Legend

< Less Than

> Greater Than

AICS Australian Inventory of Chemical Substances

atm Atmosphere

CAS Chemical Abstracts Service (Registry Number)

cm² Square Centimetres

CO₂ Carbon Dioxide

COD Chemical Oxygen Demand

deg C (°C) Degrees Celcius

EPA (New Zealand) Environmental Protection Authority of New Zealand

deg F (°F) Degrees Fahrenheit

g Grams

g/cm³ Grams per Cubic Centimetre

g/l Grams per Litre

HSNO Hazardous Substance and New Organism

IDLH Immediately Dangerous to Life and Health

immiscible Liquids are insoluble in each other.

inHg Inch of Mercury

inH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ Kilograms per Cubic Metre

lb Pound

LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

ltr or **L** Litre

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight