

Citric Acid Monohydrate, USP/FCC

Revision Date 02/15/2023

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Citric Acid Monohydrate, USP/FCC
Substance name : Citric Acid
Molecular formula : C6-H8-O7.H2-O
Chemical identity : 2-hydroxypropane-1,2,3-tricarboxylic acid
CAS-No. : 5949-29-1
Chemical nature : Solid

Manufacturer or supplier's details

Company : Alliance Chemical
204 S. EDMOND ST.
Taylor, TX 76574
www.alliancechemical.com

Telephone : 512-365-6838
E-mail address : alliance@alliancechemical.com

Emergency telephone : CHEMTEL (800) 255-3924
number

Recommended use of the chemical and restrictions on use

Recommended use : Food/ feedstuff additives, Cosmetic additive, Medical aids,
Industrial use

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Eye irritation : Category 2

GHS-Labeling - Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water
for several minutes. Remove contact lenses, if present and

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easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/
attention.

Hazards Not Otherwise Classified

May form combustible dust concentrations in air (during processing).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Pure substance

Hazardous components

| Chemical Name | CAS-No. | Concentration [%] |
|-------------------------|-----------|-------------------|
| Citric acid monohydrate | 5949-29-1 | 100 |

SECTION 4. FIRST AID MEASURES

First aid procedures

- Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.
Consult a physician.
- If inhaled : If breathed in, move person into fresh air.
If symptoms persist, call a physician.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Get medical attention if symptoms occur.
- In case of eye contact : If easy to do, remove contact lens, if worn.
Rinse immediately with plenty of water, also under the eyelids,
for at least 15 minutes.
If eye irritation persists, consult a specialist.
- If swallowed : Drink plenty of water.
If swallowed, DO NOT induce vomiting.

Notes to physician

- Symptoms : Eye irritation may cause mild and mechanical irritation and
thus symptoms which would be redness and pain.
- Risks : Causes serious eye irritation.
- Treatment : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Fire fighting

- Suitable extinguishing media : Water spray
Dry powder

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Foam
Carbon dioxide (CO₂)

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
In the event of fire and/or explosion do not breathe fumes.

Protective equipment and precautions for firefighters

Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.
Hazardous decomposition products formed under fire conditions.
Exposure to decomposition products may be a hazard to health.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
Wear fire resistant or flame retardant clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Avoid dust formation.
Avoid breathing dust.
Ensure adequate ventilation, especially in confined areas.
Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
No special environmental precautions required.

Methods and materials for containment and cleaning up : Use mechanical handling equipment.
Keep in suitable, closed containers for disposal.
Clean contaminated surface thoroughly.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Handling

Advice on safe handling : Risk of dust explosion.
May form combustible dust concentrations in air (during processing).
Avoid creating dust.
Do not breathe dust.
Avoid contact with skin and eyes.
For personal protection see section 8.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Dust explosion class : St1

Storage

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| | |
|---|--|
| Requirements for storage areas and containers | : Keep in an area equipped with acid resistant flooring. Keep container tightly closed in a dry and well-ventilated place. |
| Further information on storage conditions | : Do not store at temperatures above 30 °C / 86 °F. |
| Advice on common storage | : Incompatible with strong bases and oxidizing agents. |
| Other data | : No decomposition if stored and applied as directed. |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Provide adequate ventilation.

Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
Use NIOSH approved respiratory protection.

Hand protection : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.

Eye protection : Safety glasses
Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Handle in accordance with good industrial hygiene and safety practice.
Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---------------------|---------------------|
| Appearance | : crystalline |
| Colour | : white |
| Odour | : odourless |
| pH | : 1.85, 5 % (25 °C) |
| Melting point/range | : ca. 135 - 152 °C |

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| | |
|--|---------------------------------------|
| Flash point | : Not applicable |
| Evaporation rate | : Not applicable |
| Flammability (solid, gas) | : does not ignite |
| Upper explosion limit | : not determined |
| Lower explosion limit | : not determined |
| Vapour pressure | : Not applicable |
| Relative vapour density | : Not applicable |
| Density | : 1.542 g/cm ³ (20 °C) |
| Solubility(ies) | |
| Water solubility | : ca. 880 g/l (20 °C) |
| Partition coefficient: n-octanol/water | : log Pow: -1.8 - -0.2 Calculation |
| Ignition temperature | : Not applicable |
| Thermal decomposition | : No data available |
| Viscosity | |
| Viscosity, dynamic | : Not applicable |
| Oxidizing properties | : No oxidising effect. |
| Molecular weight | : 210.14 g/mol |

SECTION 10. STABILITY AND REACTIVITY

| | |
|------------------------------------|---|
| Reactivity | : No decomposition if stored and applied as directed. |
| Chemical stability | : Stable under normal conditions. |
| Possibility of hazardous reactions | : No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | : Avoid dust formation. |
| Incompatible materials | : Strong bases Oxidizing agents |
| Hazardous decomposition products | : Build-up of dangerous/toxic fumes possible in cases of fire/high temperature. |

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

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Citric acid monohydrate:

Acute oral toxicity : LD50 Oral Mouse: 5,400 mg/kg
Method: OECD Test Guideline 401

LD50 Oral Rat: 11,700 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 Dermal Rat: > 2,000 mg/kg

Acute toxicity (other routes of administration) : LD50 Rat: 725 mg/kg
Application Route: i.p.

LD50 Mouse: 940 mg/kg
Application Route: i.p.

Skin corrosion/irritation

Components:

Citric acid monohydrate:

: Species: Rabbit
Result: No skin irritation
Method: OECD Test Guideline 404
Remarks: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Components:

Citric acid monohydrate:

: Species: Rabbit
Result: Irritating to eyes.
Method: OECD Test Guideline 405

Respiratory or skin sensitisation

Components:

Citric acid monohydrate:

: Test Method: Maximisation Test (GPMT)
Species: Guinea pig
Result: Does not cause skin sensitisation.
Method: OECD Test Guideline 406

Germ cell mutagenicity

Components:

Citric acid monohydrate:

Germ cell mutagenicity-
Assessment : In vivo tests did not show mutagenic effects

Carcinogenicity

Components:

Citric acid monohydrate:

Carcinogenicity -
Assessment : Did not show carcinogenic or teratogenic effects in animal experiments.

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Reproductive toxicity

Components:

Citric acid monohydrate:

Reproductive toxicity - Assessment : No toxicity to reproduction

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Potential Health Effects

Aggravated Medical Condition : None known.

Symptoms of Overexposure : Eye irritation may cause mild and mechanical irritation and thus symptoms which would be redness and pain.

Experience with human exposure

Inhalation : Respiratory system
No information available.

Skin contact : Skin
May cause skin irritation in susceptible persons.

Eye contact : Eyes
Redness, Itching

Ingestion : Digestive organs
No information available.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Citric acid monohydrate :

- Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 440 mg/l
Exposure time: 48 h
Test Method: static test
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 1,535 mg/l
Exposure time: 24 h
Test Method: static test
- Toxicity to algae : NOEC (Scenedesmus quadricauda (Green algae)): 425 mg/l
Exposure time: 8 d
Test Type: static test
- Toxicity to bacteria : TT (Pseudomonas putida): > 10,000 mg/l
Exposure time: 16 h

Persistence and degradability

Components:

Citric acid monohydrate :

- Biodegradability : Biodegradation: 97 %
Testing period: 28 d
Method: OECD Test Guideline 301B
Remarks: Readily biodegradable
- Biodegradation: 100 %
Testing period: 19 d
Method: OECD Test Guideline 301E
Remarks: Readily biodegradable
- Biochemical Oxygen Demand (BOD) : 526 mg/g
- Chemical Oxygen Demand (COD) : 728 mg/g

Bioaccumulative potential

Product:

- Partition coefficient: n-octanol/water : log Pow: -1.8 - -0.2
Remarks: Calculation

Components:

Citric acid monohydrate :

- Bioaccumulation : Remarks: The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

Other adverse effects

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Components:

Citric acid monohydrate :

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Where possible recycling is preferred to disposal or incineration.
Can be landfilled or incinerated, when in compliance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT

Not dangerous goods

IATA

Not dangerous goods

IMDG

Not dangerous goods

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : CAUSES EYE IRRITATION

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

REACH : On the inventory, or in compliance with the inventory
TSCA : On TSCA Inventory
EINECS : On the inventory, or in compliance with the inventory
DSL : All components of this product are on the Canadian DSL

Inventories

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AICS (Australia), DSL (Canada), IECSC (China), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

Disclaimer: ALLIANCE CHEMICAL believes that the information on this SDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, ALLIANCE CHEMICAL does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable. Information is correct to the best of our knowledge at the date of the SDS publication.

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