

Section 1. Product and Company Identification

Product Name Citric Acid Monohydrate
CAS Number 5949-29-1

Parchem - fine & specialty chemicals

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EMERGENCY RESPONSE NUMBER
CHEMTEL

Toll Free US & Canada: 1 (800) 255-3924

All other Origins: 1 (813) 248-0585

Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture

GHS Classification

Eye irritation: Category 2

GHS Label Elements

Pictograms:



Signal word: WARNING

Hazard and precautionary statements

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 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

Common Name Citric Acid Monohydrate
Synonym(s) 2-hydroxypropane-1,2,3-tricarboxylic acid
Formula $C_6H_8O_7 \cdot H_2O$
CAS Number 5949-29-1

COMPONENT	CAS NUMBER	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.

Inhalation: 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.

Skin contact: In case of contact, immediately flush skin with plenty of water. Get medical attention if symptoms occur.

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.

Ingestion: Drink plenty of water. 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

Suitable extinguishing media: Water spray, Dry powder, 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

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: White crystalline

Odor: odorless

pH: 1.85, 5 % (25°C)

Melting point/range: ca. 135 - 152°C

Flash point: Not applicable

Evaporation rate: Not applicable

Flammability (solid, gas): does not ignite

Upper explosion limit: Not determined

Lower explosion limit: Not determined

Vapor pressure: Not applicable

Relative vapor density: Not applicable

Density: 1.542 g/cm³ (20°C)

Solubilities

Water solubility: ca. 880 g/l (20°C)

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

Ignition temperature: Not applicable

Thermal decomposition: No data available

Viscosity

Viscosity, dynamic: Not applicable

Oxidizing properties: No oxidizing 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: 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

Species: Rabbit

Result: No skin irritation

Method: OECD Test Guideline 404

Remarks: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Species: Rabbit

Result: Irritating to eyes.

Method: OECD Test Guideline 405

Respiratory or skin sensitization

Test Method: Maximisation Test (GPMT)

Species: Guinea pig

Result: Does not cause skin sensitisation.

Method: OECD Test Guideline 406

Germ cell mutagenicity

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



Carcinogenicity

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

Reproductive toxicity

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: No information available.

Skin contact: May cause skin irritation in susceptible persons.

Eye contact: May cause redness, itching of eyes

Ingestion: No information available.

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

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 to -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

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



Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

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

Section 16. Other Information

Disclaimer: 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 the product.

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