

Safety Data Sheet

For Compliance with OSHA 29 CFR 1910.1200 and ANSI Z400.1-1998

Section 1: Identification

Product Name Citric Acid USP Monohydrate Powder
Commercial Name Not available.
Product Use Not available
Restrictions On Use Not available

Product Code 30-1199

Company PCCA
9901 South Wilcrest
Houston, TX 77099
Phone: 1-800-331-2498
Fax: 1-800-874-5760

In case of emergency contact:
CHEMTREC (24hr) 1-800-424-9300

Section 2: Hazard(s) Identification

OSHA Haz Com: Eye irritation, Category 2A
CFR 1910.1200

Signal Word WARNING

Hazard Statement(s) Causes serious eye irritation. May cause respiratory irritation. May form combustible dust concentrations in air.

Pictogram(s) or Symbol(s)



Precautionary Statement(s):

Prevention P264 Wash skin thoroughly after handling P280 Wear protective gloves/ protective clothing/ 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.
Storage Not available
Disposal Not available

Section 3: Composition/Information on Ingredients

Substance/Mixture Substance
Components Citric acid monohydrate
% By Weight 100
CAS# 5949-29-1
Molecular Weight 210.14 g/mole
Chemical Formula H3C6H5O7.H2O
Synonym(s) 2-Hydroxy-1,2,3-propanetricarboxylic acid monohydrate

Mixtures

Name	CAS#	% by Weight	TLV/PEL	LC50/LD50
Citric acid monohydrate	5949-29-1	100	Not available.	ORAL (LD50):Acute: 6730mg/kg [Rat.].

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Section 4: First-Aid Measures

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. If swallowed, DO NOT induce vomiting.
Symptoms/Effects	
Acute	Eye irritation may cause mild and mechanical irritation and thus symptoms which would be redness and pain. Causes serious eye irritation.
Delayed	Eye irritation may cause mild and mechanical irritation and thus symptoms which would be redness and pain. Causes serious eye irritation.

Immediate Medical Attention

Treat symptomatically.

Section 5: Fire-Fighting Measures**Suitable Extinguishing Media**Water spray Dry powder Foam Carbon dioxide (CO₂)**Unsuitable Extinguishing Media**

High volume water jet

Products of Combustion

Carbon dioxide (CO₂) Carbon monoxide 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. Do not use a solid water stream as it may scatter and spread fire. Hazardous decomposition products formed under fire conditions.

Firefighters Special Equipment and Precautions

Standard procedure for chemical fires. 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. In the event of fire, wear self-contained breathing apparatus. Wear fire resistant or flame retardant clothing.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures : Avoid dust formation. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid breathing dust. Ensure adequate ventilation, especially in confined areas. Wear personal protective equipment. Avoid contact with skin and eyes. Refer to protective measures listed in sections 7 and 8. Environmental precautions : No special environmental precautions required. Prevent further leakage or spillage if safe to do so. Methods and materials for containment and cleaning up : Use mechanical handling equipment. Non-sparking tools should be used. 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

Advice on safe handling : Risk of dust explosion. Do not breathe dust. Avoid contact with skin and eyes. Wear personal protective equipment. For personal protection see section 8. Conditions for safe storage : Keep in an area equipped with acid resistant flooring. Keep container tightly closed in a dry and well-ventilated place. Minimize dust generation and accumulation. Take measures to prevent the build up of electrostatic charge. Materials to avoid : Incompatible with strong bases and oxidizing agents. Further information on storage stability : No decomposition if stored and applied as directed.

Section 8: Exposure Controls/Personal Protection

Exposure Limits	Not available.
Engineering Controls	Provide adequate ventilation. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

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Personal Protection

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter. Use NIOSH approved respiratory protection. Hand protection Remarks: 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 : 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	odourless		
Odor Threshold	No information found		
Melting Point	ca. 275 - 306 °F / 135 - 152 °	pH	1.85 (77 °F / 25 °C) Concentration:
Freezing Point	Not Available.	Vapor Pressure	Not volatile
Boiling Point/Range	Not available.	Vapor Density	Not available.
Decomposition temperature	Not available	Viscosity	Not available.
Partition Coefficient: n-octanol/water	log Pow: -1.8 - -0.2 calculatic	Evaporation Rate	Not applicable
Flash Point	Not applicable	Autoignition temperature	No information found
Flammability	does not ignite	Flammability or Explosive Limits:	
		Lower	Not applicable
		Upper	Not applicable
Solubility(ies)	ca. 1,840 g/l (68 °F / 20 °C) in water		
Other	Relative density : 1.665 (68 °F / 20 °C) Molecular weight : 210.14 g/mol	Dust explosion class	: St1

Section 10: Stability and Reactivity

Reactivity	No decomposition if stored and applied as directed.
Chemical Stability	Stable under normal conditions.
Hazardous Polymerization	Will not occur
Conditions to Avoid	Avoid dust formation.
Incompatible Materials	Strong bases Oxidizing agents
Hazardous Decomposition Products	Carbon dioxide (CO2) Carbon monoxide

Section 11: Toxicological Information
RTECS GE7350000

Acute Toxicity

Acute oral toxicity : LD50 Oral (Mouse): 5.400 mg/kg body weight Method: OECD Test Guideline 401 LD50 Oral (Rat): 11.700 mg/kg body weight Method: OECD Test Guideline 401 Acute dermal toxicity : LD50 Dermal (Rat): > 2.000 mg/kg body weight 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

No skin irritation

Serious Eye Damage/Irritation

Irritating to eyes.

Respiratory or Skin Sensitization

No known sensitising effect.

Germ Cell Mutagenicity

In vitro tests did not show mutagenic effects

Carcinogenicity

Not classifiable as a human carcinogen.

Reproductive Toxicity

No toxicity to reproduction

Routes of Entry

Eye contact.

Symptoms Related to Exposure

May cause skin irritation in susceptible persons. Eyes: Redness, Itching

Potential Health Effects

Not available

Target Organ(s)

Not available

Section 12: Ecological Information**Ecotoxicity**

Toxicity to fish: LC50 (Leuciscus idus (Golden orfe)): 440 mg/l Exposure time: 48 h Test Type: 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 Type: static test Method: OECD Test Guideline 202 Toxicity to algae : NOEC (Scenedesmus quadricauda (Green algae)): 425 mg/l Exposure time: 8 d Test Type: static test Toxicity to microorganisms: TT (Pseudomonas putida): > 10,000 mg/l Exposure time: 16 h

Persistence and Degradability

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 Physico-chemical removability : Remarks: Readily biodegradable.

Bioaccumulative Potential

Bioaccumulation: Remarks: The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected. Partition coefficient: n-oc-tanol/water : log Pow: -1.8 - -0.2

Mobility in Soil

Not available

Other Adverse Effects

Not available

Section 13: Disposal Considerations**Waste Disposal**

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

Disposal of Container

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

Other Considerations

Not available

Section 14: Transport Information**DOT Classification**

Not a DOT controlled material (United States). This material is not classified dangerous good according to international transportation regulations (ADR/RID-IMDG-ICAO/IATA).

Section 15: Regulatory Information**Regulations**

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EPCRA - Emergency Planning and Community Right-to-Know Act SARA 302 Extremely Hazardous Substances Threshold Planning Quantity No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. SARA 311/312 Hazards: Acute Health Hazard Fire Hazard 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. Clean Water Act This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307 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: EINECS : On the inventory, or in compliance with the inventory TSCA : All substances listed as active on the TSCA inventory TSCA_12b : Not applicable DSL : All components of this product are on the Canadian DSL REACH : On the inventory, or in compliance with the inventory TSCA list No substances are subject to a Significant New Use Rule. No substances are subject to TSCA 12(b) export notification requirements.

Other**Section 16: Other Information**

Not available