

SAFETY DATA SHEET

Citric acid anhydrous

Paragon Specialty Products, LLC.

Version B

Revision Date 03/11/15

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	Citric acid anhydrous
Substance name	Citric acid anhydrous
Molecular formula	C6-H8-O7
Chemical identity	2-hydroxypropane-1,2,3-tricarboxylic acid anhydrous GAS-No. 77-92-9
EC-No.	201-069-1

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

Use of the Substance/Mixture	Food/feedstuff additives, Cosmetic additive, Medical aids, Industrial use
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1.3 Details of the supplier of the safety data sheet

Company:	Paragon Specialty Products, LLC. 411 Ranch Road Rainsville, AL 35986
Telephone	+ 1 256-638-9636
Telefax	+ 1 256-638-9637
E-mail address	paragonprod@farmerstel.com

1.4 Emergency telephone number

Telephone:	CHEMTREC +1 800 424-9300
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2. Hazards identification

2.1 Classification of the substance or mixture Classification (REGULATION

(EC) No 1272/2008)

Eye irritation, Category 2	H319: Causes serious eye irritation.
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Classification (67/548/EEC, 1999/45/EC)

Irritant	R36: Irritating to eyes.
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IMPORTANT: While Paragon believes the information contained herein to be accurate, Paragon makes no representation or warranty, express or implied, regarding, and assumes no liability for, the accuracy or completeness of the information. The buyer assumes all responsibility for handling, using and/or reselling the Product in accordance with the applicable federal, state, and local law. This SDS shall not in any way limit or preclude the operation and effect of any of the provisions of Paragon's terms and conditions of sale.

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms Exclamation Mark



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 easy to do. Continue rinsing.

P337 + P313

If eye irritation persists: Get medical advice/ attention.

2.3 Other hazards

3. Composition/information on ingredients

3.1 Substances

Substance name	CAS-No.	Concentration %
Citric acid anhydrous	77-92-9	100

3.2 Mixtures

4. First aid measures

4.1 Description of first aid measures

General advice

Get medical advice/ attention if you feel unwell.
Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air.

In case of skin contact

Immediately flush skin with large amounts of water.

In case of eye contact

Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids.

If swallowed

Drink plenty of water.
If swallowed, DO NOT induce vomiting.

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4.2 Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment No information available.

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water spray
Dry powder
Foam
Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters

Special protective equipment if for firefighters Wear self contained breathing apparatus for fire fighting necessary.
Use personal protective equipment.

Further information 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.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid dust formation. Avoid breathing dust.
Ensure adequate ventilation, especially in confined areas.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Use mechanical handling equipment.
Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly.

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6.4 Reference to other sections

No conditions to be specially mentioned.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	Avoid creating dust. Do not breathe dust. Avoid contact with skin and eyes.
Advice on protection against fire and explosion	Normal measures for preventive fire protection.
Dust explosion class	St1

7.2 Conditions for safe storage, including any incompatibilities

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.

7.3 Specific end uses

8. Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

PNEC	Water Value: 440 mg/l
PNEC	Fresh water sediment Value: 34,6 mg/kg
PNEC	Marine sediment Value: 3,46 mg/kg
PNEC	Soil Value: 33, 1 mg/kg

8.2 Exposure controls

Engineering measures

Provide adequate ventilation.

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Personal protective equipment

Respiratory protection	In the case of dust or aerosol formation use respirator with an approved filter. Half mask with a particle filter P2 (EN 143).
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
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. General industrial hygiene practice. Do not breathe dust. Avoid contact with skin, eyes and clothing.

Environmental exposure controls

General advice	Prevent further leakage or spillage if safe to do so. No special environmental precautions required.
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9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	crystalline
Colour	white
Odour	odourless
Flash point	not applicable
Flammability (solid, gas)	does not ignite
Oxidizing properties	No oxidising effect.
Molecular Weight	192,13 g/mol
pH	1,8 at 5 % 25 °C
Melting point/range	ca. 153 °C
Density	1,665 g/cm ³ at 20 °C

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Water solubility	ca. 800 g/l at 20 °C
Partition coefficient: n- octanol/water	log Pow: -1,72 log Pow: -1,8 --0,2 Calculation

9.2 Other information

10. Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions None known.

10.4 Conditions to avoid

Conditions to avoid Avoid dust formation.

10.5 Incompatible materials

Materials to avoid Strong bases
Oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products Build-up of dangerous/toxic fumes possible in cases of
fire/high temperature.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity Citric acid anhydrous	LOSO Oral: 5.400 mg/kg Species: mouse Method: OECD Test Guideline 401 LOSO Oral: 11.700 mg/kg Species: rat Method: OECD Test Guideline 401
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Acute dermal toxicity
Citric acid anhydrous

LOSO Dermal: > 2.000 mg/kg
Species: rat

Acute toxicity (other routes of administration)

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LOSO: 725 mg/kg
Application Route: i.p.
Species: rat

LOSO: 940 mg/kg
Application Route: i.p.
Species: mouse

Skin corrosion/irritation

Skin irritation
Citric acid anhydrous

Species: rabbit
Result: No skin irritation
May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Eye irritation
Citric acid anhydrous

Species: rabbit
Result: Irritating to eyes.

Respiratory or skin sensitization

Sensitisation
Citric acid anhydrous

Maximisation Test
Species: guinea pig
Result: Does not cause skin sensitization.
Method: OECD Test Guideline 406

Germ cell mutagenicity

Assessment
Citric acid anhydrous

In vivo tests did not show mutagenic effects

Carcinogenicity

Assessment
Citric acid anhydrous

Did not show carcinogenic or teratogenic effects in animal experiments.

Reproductive toxicity

Assessment
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No toxicity to reproduction

Target Organ Systemic Toxicant • Repeated exposure

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12. Ecological information

12.1 Toxicity

Toxicity to fish

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LC50: 440 mg/l
Exposure time: 48 h
Species: Leuciscus idus (Golden orfe)
static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates.

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LC50: 1.535 mg/l
Exposure time: 24 h
Species: Daphnia magna (Water flea)
static test

Toxicity to algae

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425 mg/l
Exposure time: 168 h
Species: Scenedesmus quadricauda (Green algae)
static test

Toxicity to bacteria

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> 10.000 mg/l
Exposure time: 16 h
Species: Pseudomonas putida

12.2 Persistence and degradability

Biodegradability

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97 %
Testing period: 28 d
Method: OECD Test Guideline 301B
Readily biodegradable.

100 %
Testing period: 19 d
Method: OECD Test Guideline 301E
Readily biodegradable.

Biochemical Oxygen Demand (BOD)

Citric acid anhydrous 526 mg/g

Chemical Oxygen Demand (COD)

Citric acid anhydrous 728 mg/g

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12.3 Bioaccumulative potential

Bioaccumulation
Citric acid anhydrous

The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment

Citric acid anhydrous

This substance is not considered to be persistent, bioaccumulating nor toxic (PST).

12.6 Other adverse effects

13. Disposal considerations

13.1 Waste treatment methods

Product

Where possible recycling is preferred to disposal or incineration. Can be landfilled or incinerated, when in compliance with local regulations. Waste codes should be assigned by the user based on the application for which the product was used. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Contaminated packaging

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

14. Transport information

ADR

Not dangerous goods

DOT

Not a Hazardous Material

TDG

Not dangerous goods

IATA

Not dangerous goods

IMDG

Not dangerous goods

RID

Not dangerous goods

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15. Regulatory information

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

Major Accident Hazard Leg- 96/82/EC Update: 2003 islation Directive
96/82/EC does not apply

Notification status

CERCLA	Not considered hazardous
SARA Title 111	Not considered hazardous
WHMIS	Class E
TSCA	On TSCA Inventory
EINECS	On the inventory, or in compliance with the inventory
AICS	On the inventory, or in compliance with the inventory
DSL	All components of this product are on the Canadian DSL list.
ENCS	On the inventory, or in compliance with the inventory
KECI	On the inventory, or in compliance with the inventory
PICCS	On the inventory, or in compliance with the inventory
IECSC	On the inventory, or in compliance with the inventory
NZIoC	On the inventory, or in compliance with the inventory

15.2 Chemical Safety Assessment

16. Other information

HMIS* Rating Health = 1, Fire = 0, Reactivity = 0
0=minimal, 1=slight, 2=moderate, 3=serious, 4=severe

*Hazardous Materials Identification System of the National Paint and Coating Association.

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