

Citric Acid Powder

(TNL 1734 - 17342)

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

1.1 Product identifier

Trade name : Citric Acid Anhydrous

Substance name : Citric acid anhydrous

Molecular formula : C₆H₈O₇

Chemical identity : 2-hydroxypropane-1,2,3-tricarboxylic acid

CAS-No. : 77-92-9

EC-No. : 201-069-1

REACH No. : 01-2119457026-42-0000

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.

Recommended restrictions on use : None known.

1.3 Details of the supplier of the safety data sheet

Company : Lawrence Art Supplies
36 Kingsthorpe Road
Hove
BN3 5HR
www.lawrence.co.uk

Telephone : 01273 260260

Fax : 01273 260270

1.4 Emergency telephone number

Telephone : National Chemical Emergency Centre (NCEC) 01865 407 333

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.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:



Signal word:

Warning

Hazard statements:

H319

Causes serious eye irritation.

Precautionary statements:

Prevention:

P264

Wash hands 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.

2.3 Other hazards

None known.

3. Composition/information on ingredients

3.1 Substances

Chemical nature:

Solid

Chemical name	CAS-No. EC-No.	Concentration [%]
Hazardous components :		
Citric acid anhydrous	77-92-9 201-069-1	100

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 :

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

In case of eye contact :

Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.

If swallowed :

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

4.2 Most important symptoms and effects, both acute and delayed

Symptoms :	Severe eye irritation
Risks :	Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment :	Treat symptomatically.
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5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media:	Water spray
	Dry powder
	Foam
	Carbon dioxide (CO ₂)

Unsuitable extinguishing media:	High volume water jet
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5.2 Special hazards arising from the substance or mixture

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.
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5.3 Advice for firefighters

Special protective equipment for firefighters:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.
Specific extinguishing methods:	Standard procedure for chemical fires.
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.

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.
	Wear personal protective equipment.
	Avoid contact with skin and eyes.

6.2 Environmental precautions

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

For personal protection see section 8.
For disposal considerations see section 13.

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. For personal protection see section 8.
Advice on protection against fire and explosion:	Normal measures for preventive fire protection.
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.
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 use(s)

Specific use(s):	For further information see eSDS.
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8. Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Citric acid anhydrous :	Fresh water Value: 0,44 mg/l Marine water Value: 0,044 mg/l Fresh water sediment Value: 7,52 mg/kg wet weight Marine sediment Value: 0,752 mg/kg wet weight Soil Value: 29,2 mg/kg wet weight
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8.2 Exposure controls

Engineering measures

Provide adequate ventilation.

Personal protective equipment

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

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.

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

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)

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	crystalline
Colour :	white
Odour :	odourless
Odour Threshold :	Not relevant
pH :	1,8, 5 % (25 °C)
Melting point/range :	ca. 153 °C
Boiling point/boiling range :	Not applicable
Flash point :	Not applicable
Evaporation rate :	Not applicable
Flammability (solid, gas) :	does not ignite
Upper explosion limit :	No data available
Lower explosion limit :	No data available
Vapour pressure :	Not applicable
Vapour density :	Not applicable
Relative density :	No data available
Density :	1,665 g/cm ³ (20 °C)
Water solubility :	ca. 1.450 g/l (20 °C)
Partition coefficient: noctanol/water:	log Pow: -1,8 - -0,2 Calculation
Ignition temperature :	No data available
Thermal decomposition :	No data available
Viscosity, dynamic :	Not applicable
Viscosity, kinematic :	Not applicable
Explosive properties :	Not explosive
Oxidizing properties :	No oxidising effect.

9.2 Other information

Molecular weight : 192,12 g/mol

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

Components:

Citric acid anhydrous:

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 inhalation toxicity : This information is not available.

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 anhydrous:

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

Serious eye damage/eye irritation

Components:

Citric acid anhydrous:

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

Respiratory or skin sensitisation

Components:

Citric acid anhydrous: No data available

Germ cell mutagenicity Germ cell mutagenicity- Assessment

Genotoxicity in vitro	: Test Type Ames test Test species: Salmonella typhimurium Concentration: 0 - 5 mg/plate Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay) Result: negative
Genotoxicity in vivo	: Test Type: in vivo assay Test species: Rat Application Route: Oral Method: OECD Test Guideline 475 Result: negative

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

Carcinogenicity

Components:

Citric acid anhydrous:

Carcinogenicity - Assessment: Not classifiable as a human carcinogen.

Reproductive toxicity

Components:

Citric acid anhydrous:

Reproductive toxicity - Assessment: No toxicity to reproduction

STOT - single exposure

Components:

Citric acid anhydrous:

No data available

STOT - repeated exposure

Components:

Citric acid anhydrous:

No data available

Repeated dose toxicity

Components:

Citric acid anhydrous:

: **Rat:**
NOAEL: **4.000 mg/kg**
LOAEL: **8.000 mg/kg**
Application Route: **Oral**
Exposure time: **10 d**
Dose: **2, 4, 8, 16 g/kg bw/day**

Aspiration hazard

Components:

Citric acid anhydrous:

No aspiration toxicity classification

12. Ecological information

12.1 Toxicity

Components:

Citric acid anhydrous:

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
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

12.2 Persistence and degradability

Components:

Citric acid anhydrous:

Biodegradability : Biodegradation: 97 %

Method: OECD Test Guideline 301B

Readily biodegradable.

Biodegradation: 100 %

Method: OECD Test Guideline 301E Readily biodegradable.

Biochemical Oxygen Demand

(BOD): 526 mg/g

Chemical Oxygen Demand

(COD): 728 mg/g

Physico-chemical removability: Readily biodegradable.

12.3 Bioaccumulative potential

Product:

Partition coefficient:: log Pow: -1,8 - -0,2
noctanol/water Calculation

Components:

Citric acid anhydrous:

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

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Components:

Citric acid anhydrous:

Assessment: Non-classified vPvB substance
Non-classified PBT substance

12.6 Other adverse effects

Components:

Citric acid anhydrous:

Additional ecological information: This product has no known ecotoxicological 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 as signed 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

14.1 UN number

ADR : Not dangerous goods

RID : Not dangerous goods

IMDG : Not dangerous goods
IATA : Not dangerous goods

14.2 Proper shipping name

ADR : Not dangerous goods
RID : Not dangerous goods
IMDG : Not dangerous goods
IATA : Not dangerous goods

14.3 Transport hazard class

ADR : Not dangerous goods
RID : Not dangerous goods
IMDG : Not dangerous goods
IATA : Not dangerous goods

14.4 Packing group

ADR : Not dangerous goods
RID : Not dangerous goods
IMDG : Not dangerous goods
IATA : Not dangerous goods

14.5 Environmental hazards

ADR : Not dangerous goods
RID : Not dangerous goods
IMDG : Not dangerous goods
IATA : Not dangerous goods

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15. Regulatory information

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

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

EINECS : On the inventory, or in compliance with the inventory
TSCA : On TSCA Inventory
AICS : On the inventory, or in compliance with the inventory
DSL : All components of this product are on the Canadian DSL
NZIoC : On the inventory, or in compliance with the inventory
KECI : On the inventory, or in compliance with the inventory
ENCS : 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
REACH : Notification number: 01-2119457026-42

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

16. Other information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.