



Citric Acid Powder

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Reference number: Periodic review of SDS 30/05/2025
Issue date: 18/02/2014 Revision date: 30/05/2022 Supersedes version of: 10/08/2021 Version: 1.6

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Trade name	: Citric Acid Powder
Chemical name	: citric acid
IUPAC name	: 2-Hydroxypropane-1,2,3-tricarboxylic acid, monohydrate
EC Index-No.	: 607-750-00-3
EC-No.	: 201-069-1
CAS-No.	: 77-92-9
REACH registration No	: 01-2119457026-42-XXXX
Type of product	: Organic acids
Formula	: $\text{HOOCCH}_2\text{C}(\text{OH})(\text{COOH})\text{CH}_2\text{COOH}\cdot\text{H}_2\text{O}$
Synonyms	: Citric acid, monohydrate
Product group	: Raw material

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Use of the substance/mixture	: pH adjuster, Use as Cleaning Agent, Descaler

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Wessex Chemical Factors Ltd
17 Crane Way, Woolsbridge Industrial Park,
Three Legged Cross, Wimborne, Dorset
BH21 6FA
United Kingdom
T +44 (0) 1202 823 699 - F +44 (0) 1202 813 863
www.wessexchemicalfactors.co.uk

E-mail address of competent person responsible for the SDS : info@wessexchemicalfactors.co.uk

1.4. Emergency telephone number

Emergency number	: +44 (0) 1202 823 699 (Office hours only 9am - 5pm Monday - Thursday, 9am - 4pm Friday.) +44 (0) 7973629367 (Out of hours emergency number)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 2 H319

Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation H335

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Causes serious eye irritation.

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

Precautionary statements (CLP) :

P261 - Avoid breathing dust.
P280 - Wear eye protection, protective clothing, protective gloves.
P312 - Call doctor if you feel unwell.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
citric acid	CAS-No.: 77-92-9 EC-No.: 201-069-1 EC Index-No.: 607-750-00-3 REACH-no: 01-2119457026-42-XXXX	100	Eye Irrit. 2, H319 STOT SE 3, H335

Full text of H- and EUH-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse thoroughly and plentifully with water, also under the eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Consult an eye specialist.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Immediately give plenty of water. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: Dust from this product may cause respiratory irritation. Cough.
Symptoms/effects after skin contact	: Skin Corr./Irrit. Not classified. Contact during a long period may cause light irritation.

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Symptoms/effects after eye contact : Burning sensation. Eye irritation.
Symptoms/effects after ingestion : Ingestion may cause nausea, vomiting and diarrhea.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Carbon dioxide. Sand. Water spray. Dry powder. Foam.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : The product is not easily ignited.
Explosion hazard : Dust may form explosive mixture in air.
Hazardous decomposition products in case of fire : Carbon monoxide. Carbon dioxide. Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Avoid dust formation.
Methods for cleaning up : Mechanically recover the product. On land, sweep or shovel into suitable containers. Minimise generation of dust. Store away from other materials.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Provide good ventilation in process area to prevent formation of vapour. Avoid contact with skin and eyes. Wear personal protective equipment.

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Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids. oxidizing materials. reducing materials.

Incompatible materials : Strong oxidizers. Sources of ignition. Direct sunlight.

Maximum storage period : 18 months

Storage temperature : 15 – 25 °C

Information on mixed storage : Do not store near oxidizing agents. alkaline products.

Storage area : Store in a dry place.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Citric Acid Powder (77-92-9)	
PNEC (Water)	
PNEC aqua (freshwater)	0.44 mg/l
PNEC aqua (marine water)	0.044 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	3.46 mg/kg dwt
PNEC sediment (marine water)	34.6 mg/kg dwt
PNEC (Soil)	
PNEC soil	33.1 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	> 1000 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure. Safety glasses. Gloves.

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Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses

Eye protection			
Type	Field of application	Characteristics	Standard
Safety glasses		With side shields	EN 166

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing. Boots

Hand protection:

Wear protective gloves.

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	Nitrile rubber (NBR)	6 (> 480 minutes)	0.11 mm		EN ISO 374

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask. EN 143. Dust production: dust mask with filter type P2

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline powder.
Molecular mass	: 210.138 g/mol (monohydrate)
Colour	: white.
Odour	: odourless.
Odour threshold	: No data available
pH	: No data available
pH solution	: 1.7 (10% solution)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 135 – 152 °C
Freezing point	: Not applicable
Boiling point	: Decomposes before boiling
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: > 175 °C

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Flammability (solid, gas)	: Non flammable.
Vapour pressure	: 0.00000221 Pa
Relative vapour density at 20 °C	: No data available
Relative density	: Not applicable
Density	: 1.54 g/cm ³ (monohydrate)
Solubility	: soluble in water. Water: 592 g/l
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: -1.8 – -1.6
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: Not applicable

9.2. Other information

Bulk density	: 550 – 950 kg/m ³
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SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended handling and storage conditions (see section 7).

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: "Stability-Reactivity").

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. Sodium nitrite. potassium nitrite. Reducing agents. Oxidizing agent.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Citric Acid Powder (77-92-9)	
LD50 oral rat	11700 mg/kg
LD50 oral	5400 mg/kg bodyweight Animal: (mouse)
LD50 dermal rat	> 2000 mg/kg bodyweight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Extremely irritating to rabbits on ocular application
Respiratory or skin sensitisation	: This product does not cause skin sensitization
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met

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Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: May cause respiratory irritation.
Additional information	: Based on available data, the classification criteria are not met
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met

Citric Acid Powder (77-92-9)

Viscosity, kinematic	Not applicable
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Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Before neutralisation the acidity of the product may represent a danger to aquatic organisms.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Citric Acid Powder (77-92-9)

LC50 - Fish [1]	> 100 mg/l Test organisms (species): Fathead minnow, (<i>P. promelas</i>)
EC50 - Other aquatic organisms [1]	> 50 mg/l Test organisms (species): (Zebra mussel <i>D. polymorpha</i>)
NOEC chronic algae	425 mg/l Test organisms (species): (Algae <i>S. quadricauda</i>)

12.2. Persistence and degradability

Citric Acid Powder (77-92-9)

Persistence and degradability	Readily biodegradable.
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12.3. Bioaccumulative potential

Citric Acid Powder (77-92-9)

Partition coefficient n-octanol/water (Log Kow)	-1.8 – -1.6
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4).

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Citric Acid Powder (77-92-9)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Additional information	: Avoid release to the environment.
Dissociation constant	: pKa = 3.13, 4.76 and 6.4 at 25°C

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.
European List of Waste (LoW) code	: 06 01 06* - other acids

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Citric Acid Powder is not on the REACH Candidate List

Citric Acid Powder is not on the REACH Annex XIV List

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Citric Acid Powder is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Citric Acid Powder is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

citric acid is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
LC50	Median lethal concentration
LD50	Median lethal dose
NOEC	No-Observed Effect Concentration
PNEC	Predicted No-Effect Concentration
PBT	Persistent Bioaccumulative Toxic
SDS	Safety Data Sheet
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
vPvB	Very Persistent and Very Bioaccumulative
STP	Sewage treatment plant

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.