SAFETY DATA SHEET
CITRIC ACID ANHYDROUS

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

1.1. Product identifier

Product name CITRIC ACID ANHYDROUS

Synonyms; trade names 2-HYDROXY 1,2,3 PROPANE TRICARBOXYLIC ACID, CITRIC ACID ANHYDROUS BP2003/E330/USP27, CITRIC ACID ANH FG 30-100 M, CITRIC ACID ANHYDROUS F6000, CITRIC ACID ANHYDROUS N1560, CITRIC ACID 0AQ FCC ed7, CITRIC ACID WV, CITRIC ACID 0AQ, CITRIC ACID WV GRAN, CITRIC ACID ANH E330 12-40M LT, CITRIC ACID ANH E330 16-40M YX, CITRIC ACID ANH E330 MG 1200 CB, CITRIC ACID ANH JBN, CITRIC ACID ANHYDROUS F4020, CITRIC ACID ANH E330 12-40M LT, CITRIC ACID ANHYDROUS FINE GRANULAR 51N, CITRIC ACID ANHY WFG JBN, CITRIC ACID ANH LTY JBN, CITRIC ACID ANH JGY JBN, CITRIC ACID ANH WEY JBN, CITRIC ACID ANH P250 PH, CITRIC ACID ANHDROUS F0000, CITRIC ACID ANHDROUS F6040, CITRIC ACID ANHDROUS F7040, CITRIC ACID ANHDROUS G3015, CITRIC ACID ANHDROUS F3500, CITRIC ACID ANHDROUS F2500, CITRIC ACID ANH N1560 FG/PH

REACH registration number 01-2119457026-42-XXXX

CAS number 77-92-9

EC number 201-069-1

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

Identified uses Food industry Cosmetics Industrial application For further information, see attached Exposure Scenario.

1.3. Details of the supplier of the safety data sheet

Supplier

Soak Rochford Ltd
3B King Street Industrial Estate,
Langtoft,
Peterborough,
Pe6 9NF
sales@soakrochford.co.uk

1.4. Emergency telephone number

Emergency telephone 999 (24h)

Sds No. 20184

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Eye Irrit. 2 - H319

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Environmental hazards Not Classified

2.2. Label elements

EC number 201-069-1

Hazard pictograms

Signal word Warning

Hazard statements H319 Causes serious eye irritation.

Precautionary statements P264 Wash contaminated skin thoroughly after handling.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name CITRIC ACID ANHYDROUS

REACH registration number 01-2119457026-42-XXXX

CAS number 77-92-9

EC number 201-069-1

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove person to fresh air and keep comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Get medical attention if symptoms are severe or persist. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Ingestion Rinse mouth thoroughly with water. Remove any dentures. Remove person to fresh air and keep comfortable for breathing. Immediately give a couple of glasses of water or milk, provided the victim is fully conscious. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms are severe or persist. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues. Wash clothing and clean shoes thoroughly before reuse.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention.

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Protection of first aiders No action shall be taken without appropriate training or involving any personal risk.

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

Inhalation May cause respiratory irritation.

Ingestion No specific health hazards known.

Skin contact No specific health hazards known.

Eye contact Causes serious eye irritation.

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

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with the following media: Water. Foam.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Dust may form explosive mixture with air.

Hazardous combustion products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Carbon dioxide (CO2). Carbon monoxide (CO).

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Provide adequate ventilation.

For non-emergency personnel No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Do not touch or walk into spilled material. No smoking, sparks, flames or other sources of ignition near spillage.

6.2. Environmental precautions

Environmental precautions Avoid discharge into water courses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Remove spillage with vacuum cleaner or collect with a shovel and broom, or similar. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin, eyes and clothing. Avoid generation and spreading of dust. Provide adequate ventilation. Keep only in the original container. Container must be kept tightly closed when not in use. Avoid inhalation of dust and contact with skin and eyes. Keep away from heat, sparks and open flame. Take precautionary measures against static discharges. Do not reuse empty containers. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Wash after use and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry and cool place. Store at temperatures between 10°C and 30°C. Protect from sunlight. Keep away from food and drink. Keep away from heat, sparks and open flame. Avoid contact with oxidising agents.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Ingredient comments No exposure limits known for ingredient(s).

PNEC
- Fresh water; 0.44 mg/l
- marine water; 0.044 mg/l
- Sediment (Freshwater); 7.52 mg/kg
- Sediment (Marinewater); 0.752 mg/kg
- Soil; 29.2 mg/kg

8.2. Exposure controls

Protective equipment

Appropriate engineering controls Provide adequate ventilation. Avoid inhalation of dust. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The selected gloves should have a breakthrough time of at least 8 hours. Nitrile rubber. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection Wear suitable protective clothing as protection against splashing or contamination.

Hygiene measures Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and wash the skin thoroughly with soap and water after work. Eye wash facilities and emergency shower must be available when handling this product.

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Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. Particulate filter, type P2. EN 136/140/141/145/143/149
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Fine Ganules/coarse powder
Colour	White.
Odour	Odourless.
Odour threshold	No information available.
pH	pH (diluted solution): 1.8 (50 g/l) @ 25°C
Melting point	~153°C
Initial boiling point and range	>175°C
Flash point	345°C Closed cup.
Evaporation rate	Not applicable.
Evaporation factor	No information available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	<0.001 hPa @ 20°C
Vapour density	No information available.
Relative density	1.665 @ 20°C
Bulk density	400 - 1300 kg/m³
Solubility(ies)	576 - 1330 g/l water @ 20°C Soluble in the following materials: Ethanol.
Partition coefficient	log Pow: -1.80 - -0.2
Auto-ignition temperature	No information available.
Decomposition Temperature	175°C
Viscosity	6.5 mPa s @ 20°C
Explosive properties	No information available.
Explosive under the influence of a flame	No information available.
Oxidising properties	No information available.

9.2. Other information

Other information	No information available.
Refractive index	No information available.

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Particle size	No information available.
Molecular weight	192.13
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No test data specifically related to reactivity available for this product or its ingredients.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Under normal conditions of storage and use, no hazardous reactions will occur.

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time. Avoid generation and spreading of dust.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents. Avoid contact with acids and alkalis.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	5,400.0
Species	Mouse
Notes (oral LD_{50})	LD_{50} 5400 mg/kg, Oral, Mouse LD_{50} 11700 mg/kg, Oral, Rat
ATE oral (mg/kg)	5,400.0

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} > 2000 mg/kg

Acute toxicity - inhalation

Notes (inhalation LC_{50})	No specific test data are available.

Skin corrosion/irritation

Skin corrosion/irritation	May be slightly irritating to skin.

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation. Irritating to eyes.

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Respiratory sensitisation

Respiratory sensitisation No specific test data are available.

Skin sensitisation

Skin sensitisation No specific test data are available.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.
Ames test: Negative.

Genotoxicity - in vivo Negative

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 4000 mg/kg, Oral, Rat 10 days
LOAEL 8000 mg/kg, Oral, Rat 10 days

Aspiration hazard

Aspiration hazard No information available.

Inhalation Dust in high concentrations may irritate the respiratory system.

Ingestion May cause discomfort if swallowed.

Skin contact Prolonged skin contact may cause temporary irritation.

Eye contact Causes serious eye irritation.

SECTION 12: Ecological information

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish LC_{50}, 48 hours: 440 mg/l, Leuciscus idus (Golden orfe)

Acute toxicity - aquatic invertebrates EC_{50}, 24 hours: 1535 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC_{50}, 168 hours: 425 mg/l, Algae

Acute toxicity - microorganisms EC_{50}, 16 hours: >10000 mg/l,

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

Biodegradation - Degradation 97%: 28 days
OCED 301B

Biological oxygen demand 0.526 g O_2/g substance

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Chemical oxygen demand 0.728 g O_2/g substance

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Partition coefficient log Pow: -1.80 - -0.2

12.4. Mobility in soil

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

No information required.

14.2. UN proper shipping name

No information required.

14.3. Transport hazard class(es)

No information required.

14.4. Packing group

No information required.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

No information required.

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information required.

SECTION 15: Regulatory information

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

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EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
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 (as amended).
Commission Regulation (EU) No 2015/830 of 28 May 2015.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.
DSL

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
CAS: Chemical Abstracts Service.
DNEL: Derived No Effect Level.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
Kow: Octanol-water partition coefficient.
LC_{50}: Lethal Concentration to 50 % of a test population.
LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose).
PBT: Persistent, Bioaccumulative and Toxic substance.
PNEC: Predicted No Effect Concentration.
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
vPvB: Very Persistent and Very Bioaccumulative.
IARC: International Agency for Research on Cancer.
MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
cATpE: Converted Acute Toxicity Point Estimate.
BCF: Bioconcentration Factor.
BOD: Biochemical Oxygen Demand.
EC_{50}: 50% of maximal Effective Concentration.
LOAEC: Lowest Observed Adverse Effect Concentration.
LOAEL: Lowest Observed Adverse Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
NOEC: No Observed Effect Concentration.
LOEC: Lowest Observed Effect Concentration.
DMEL: Derived Minimal Effect Level.
EL50: Exposure Limit 50
hPa: Hectopascal
LL50: Lethal Loading fifty
OECD: Organisation for Economic Co-operation and Development
POW: Octanol-water partition coefficient
SCBA: self-contained breathing apparatus
STP: Sewage Treatment Plant
VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
Aquatic Acute = Hazardous to the aquatic environment (acute)
Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

18/01/2021

Version number

3.004

Supersedes date

14/05/2020

SDS number

20184

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SDS status	Approved.
Hazard statements in full	H319 Causes serious eye irritation.