

**1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING**

**Product identifier:**

**Product Name:** CITRIC ACID ANHYDROUS  
**Index No:** 607-750-00-3  
**EC Number:** 201-069-1  
**CAS No:** 77-92-9  
**Synonyms:** 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 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 ANHYDROUS F0000,  
CITRIC ACID ANHYDROUS F6040, CITRIC ACID ANHYDROUS F7040, CITRIC ACID  
ANHYDROUS G3015, CITRIC ACID ANHYDROUS F3500, CITRIC ACID ANHYDROUS  
F2500, CITRIC ACID ANH N1560 FG/PH, CITRIC ACID ANH E330 12 40M RZ, CITRIC ACID  
ANH N1500 FG/PH, CITRIC ACID ANH 1200 CBE, CITRIC ACID ANHYDROUS 12-40  
SUNSHINE, CITRIC ACID ANH E330 12-40M CF, CITRIC ACID ANH MCS, CITRIC ACID  
ANH S40, CITRIC ACID ANH POWDER CBE, CITRIC ACID ANH F5020 FG PH, CITRIC  
ACID ANH F6000\*\*\*

**Pure substance/mixture:** Substance  
**Contains:** CITRIC ACID ANHYDROUS  
**Molecular weight:** 192.12

**Relevant identified uses of the substance or mixture and uses advised against:**

**Recommended use:** Food industry  
Cosmetics  
Industrial application  
Pharmaceutical  
Food/Feed additive  
Personal care

**Details of the supplier of the safety data sheet:**

**Company name:** Nexchem Ltd  
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### 2. HAZARDS IDENTIFICATION

#### Classification of the substance or mixture:

Serious eye damage/eye irritation	Category 2 - (H319)
Specific target organ toxicity — single exposure	Category 3 - (H335)
Category 3 Respiratory irritation	

#### Label elements:

Contains: CITRIC ACID ANHYDROUS



Signal word: Warning

Hazard statements: H319 - Causes serious eye irritation.  
H335 - May cause respiratory irritation.

Precautionary statements: P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 - Wash face, hands and any exposed skin thoroughly after handling.  
P280 - Wear eye protection/ face protection.  
P501 - Dispose of contents/ container to an approved waste disposal plant.

Other hazards: No information available.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances:

Chemical name	Weight-%	EC No. (EU Index No.)	UK REACH registration No.	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
CITRIC ACID 77-92-9	90-100%	201-069-1 (607-750-11-3)	-	Eye Irrit. 2 (H319) STOT SE 3 (H335)	-	-	-

Full text of H- and EUH-phrases: See section 16.

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (UK REACH Article 59).

### 4. FIRST AID MEASURES

#### Description of first aid measures:

**General advice:** Show this safety data sheet to the doctor in attendance.

**Inhalation:** Remove to fresh air. IF exposed or concerned: Get medical advice/attention.

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

**Skin contact:** Wash skin with soap and water. In the case of skin irritation or allergic reactions see a doctor.

**Ingestion:** Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a doctor.

**Self-protection of the first aider:** Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8)

[cont...]

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**Most important symptoms and effects, both acute and delayed:**

**Symptoms:** May cause redness and tearing of the eyes. Burning sensation.  
**Inhalation:** May cause respiratory irritation.  
**Eyes:** May cause redness and tearing of the eyes. Causes serious eye irritation.  
**Dermal:** May cause slight irritation.

**Indication of any immediate medical attention and special treatment needed:**

**Note to doctors:** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing media:**

**Suitable extinguishing media:** Dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray.  
**Large Fire:** CAUTION: Use of water spray when fighting fire may be inefficient.  
**Unsuitable extinguishing media:** Do not scatter spilled material with high pressure water streams.

**Special hazards arising from the substance or mixture:**

**Hazardous combustion products:** Carbon oxides.

**Advice for firefighters:**

**Special protective equipment and precautions for fire-fighters:**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.  
Use personal protection equipment.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures:**

**Personal precautions:** Ensure adequate ventilation.  
Use personal protective equipment as required.  
Evacuate personnel to safe areas.  
Avoid contact with skin, eyes or clothing.

**Other information:** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders:** Use personal protection recommended in Section 8.

**Environmental precautions:** See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up:**

**Methods for containment:** Prevent further leakage or spillage if safe to do so.  
**Methods for cleaning up:** Take up mechanically, placing in appropriate containers for disposal.  
**Prevention of secondary hazards:** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Reference to other sections:** See section 8 for more information. See section 13 for more information.

[cont...]

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### 7. HANDLING AND STORAGE

#### Precautions for safe handling:

**Advice on safe handling:** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Avoid breathing vapours or mists. In case of insufficient ventilation, wear suitable respiratory equipment.

**General hygiene considerations:** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

#### Conditions for safe storage, including any incompatibilities:

**Storage Conditions:** Keep container tightly closed in a dry and well-ventilated place.  
Keep at temperatures between 10 and 30°C.

#### Specific end use(s):

**Specific use(s):** See section 1 for more information.

**Risk Management Methods (RMM):** The information required is contained in this Safety Data Sheet.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Control parameters:

**Exposure Limits:** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

**Biological occupational exposure limits:** This product, as supplied, does not contain any hazardous materials with biological limits established by the region-specific regulatory bodies.

**Derived No Effect Level (DNEL) – Workers:** No information available

**Derived No Effect Level (DNEL) - General Public:** No information available.

#### Predicted No Effect Concentration (PNEC):

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
CITRIC ACID ANHYDROUS 77-92-9	0.44 mg/l		0.044 mg/l		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
CITRIC ACID ANHYDROUS 77-92-9	34.6 mg/kg	3.46 mg/kg	>1000 mg/l	33.1 mg/kg	

#### Exposure controls:

**Engineering controls:** No information available.

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### Personal protective equipment:

**Eye/face protection:** Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166.

**Hand protection:** Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Gloves must conform to standard EN 374.

Gloves			
Duration of contact	PPE – Glove material	Glove thickness	Break through time
Long term (repeated)	Nitrile rubber	0.3mm	8.0 hours

**Skin and body protection:** Wear suitable protective clothing.

**Respiratory protection:** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations:** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties:

**Physical state:** Solid

**Appearance:** Crystalline powder

**Colour:** White

**Odour:** Odourless

**Odour threshold:** No information available

Property	Values	Remarks • Method
Melting point / freezing point	~ 153°C	
Initial boiling point and boiling range	> 175°C	
Flammability		No information available.
Flammability Limit in Air		No information available
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point	345°C	Closed cup
Autoignition temperature		No information available
Decomposition temperature	175°C	
pH		No information available
pH (as aqueous solution)		No information available
Kinematic viscosity		No information available
Dynamic viscosity	6.5 mPa s	@ 20°C
Water solubility	Soluble in water	
Solubility(ies)	Soluble in the following materials: Ethanol	
Partition coefficient	log Pow: -1.72	
Vapour pressure	0.0002 hPa	@ 25°C
Relative density	1.665 20°C	
Bulk density	400 - 1300kg/m <sup>3</sup>	

[cont...]

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Property	Values	Remarks • Method
Liquid Density		No information available
Relative vapour density		No information available
Particle characteristics		No information available
Particle Size	~ 0.075 - 2.8mm	
Particle Size Distribution		No information available
Explosive properties:	Not considered to be explosive	
Oxidising properties	Does not meet the criteria for classification as oxidising	

**Other information:**

**Molecular weight:** 192.12

**10. STABILITY AND REACTIVITY**

**Reactivity:** Stable under recommended storage conditions.

**Chemical stability:**

**Stability:** Stable under normal conditions.

**Explosion data:**

**Sensitivity to mechanical impact:** None.

**Sensitivity to static discharge:** Dust can form an explosive mixture with air.

**Possibility of hazardous reactions:** None under normal processing.

**Conditions to avoid:** Excessive heat.

**Incompatible materials:** Strong oxidising agents. Reducing agent. Strong bases. Metals.

**Hazardous decomposition products:** Carbon oxides.

**11. TOXICOLOGICAL INFORMATION**

**Information on toxicological effects:**

**Information on likely routes of exposure:**

**Product Information:**

**Inhalation:** May cause respiratory irritation.

**Eye contact:** Causes serious eye irritation.

**Skin contact:** May cause slight irritation.

**Ingestion:** Gastrointestinal discomfort.

**Symptoms related to the physical, chemical and toxicological characteristics:**

**Symptoms:** May cause redness and tearing of the eyes.

[cont...]

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**Acute toxicity:**

**Numerical measures of toxicity:**

**Component Information:**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
CITRIC ACID ANHYDROUS	5400 mg/kg (Mouse)	> 2000 mg/kg (Rat)	-

**Delayed and immediate effects as well as chronic effects from short and long-term exposure:**

**Skin corrosion/irritation:** No information available.

**CITRIC ACID ANHYDROUS (77-92-9)**

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 404	Rabbit	Dermal			Non-irritant

**Serious eye damage/eye irritation:** Causes serious eye irritation.

**CITRIC ACID ANHYDROUS (77-92-9)**

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 405	Rabbit	Eye			Irritant

**Respiratory or skin sensitisation:** No information available.

**CITRIC ACID ANHYDROUS (77-92-9)**

Method	Species	Exposure route	Results
		Dermal	Not a skin sensitiser
		Inhalation	No sensitisation responses were observed

**Germ cell mutagenicity:** No information available.

**CITRIC ACID ANHYDROUS (77-92-9)**

Method	Species	Results
		Not mutagenic

**Carcinogenicity:** No information available.

**CITRIC ACID ANHYDROUS (77-92-9)**

Method	Species	Results
		Not carcinogenic

**Reproductive toxicity:** No information available.

**STOT - single exposure:** May cause respiratory irritation.

**CITRIC ACID ANHYDROUS (77-92-9)**

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause respiratory irritation

**STOT - repeated exposure:** No information available.

**CITRIC ACID ANHYDROUS (77-92-9)**

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Not classified

**Aspiration hazard:** No information available.

**Other adverse effects:** No information available.

[cont...]

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**12. ECOLOGICAL INFORMATION**

**Toxicity:**

**Ecotoxicity:** Not considered to be harmful to aquatic life.

**CITRIC ACID ANHYDROUS (77-92-9)**

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test	Leuciscus idus	LC50	440-760mg/L	48 hours	
	Daphnia magna	EC50	1 535mg/L	24 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Scenedesmus quadricauda	NOEC	425 mg/L	8 days	

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
CITRIC ACID ANHYDROUS	-	LC50: =1516mg/L (96h, Lepomis macrochirus)	-	-

**Persistence and degradability:** Readily biodegradable.

**CITRIC ACID ANHYDROUS (77-92-9)**

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	28 days	97% Biodegradation	Readily biodegradable

**Bioaccumulative potential:**

**Bioaccumulation:** Not likely to bioaccumulate.

Chemical name	Partition coefficient
CITRIC ACID ANHYDROUS	-1.72***

**Mobility in soil:** Soluble in water.

**Results of PBT and vPvB assessment:**

**PBT and vPvB assessment:** The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
CITRIC ACID ANHYDROUS	The substance is not PBT/vPvB

**Other adverse effects:** No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods:**

**Waste from residues/unused products:** Dispose of in accordance with local regulations.

Dispose of waste in accordance with environmental legislation.

**Contaminated packaging:** Do not reuse empty containers.

[cont...]

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**14. TRANSPORT INFORMATION**

**IATA:**

**UN number or ID number:** Not regulated  
**UN proper shipping name:** Not regulated  
**Transport hazard class(es):** Not regulated  
**Packing group:** Not regulated  
**Environmental hazards:** Not applicable  
**Special precautions for user:**  
**Special Provisions:** None

**IMDG:**

**UN number or ID number:** Not regulated  
**UN proper shipping name:** Not regulated  
**Transport hazard class(es):** Not regulated  
**Packing group:** Not regulated  
**Environmental hazards:** Not applicable  
**Special precautions for user:**  
**Special Provisions:** None  
**Maritime transport in bulk according to IMO instruments:** No information available

**RID:**

**UN number or ID number:** Not regulated  
**UN proper shipping name:** Not regulated  
**Transport hazard class(es):** Not regulated  
**Packing group:** Not regulated  
**Environmental hazards:** Not applicable  
**Special precautions for user:**  
**Special Provisions:** None

**ADR:**

**UN number or ID number:** Not regulated  
**UN proper shipping name:** Not regulated  
**Transport hazard class(es):** Not regulated  
**Packing group:** Not regulated  
**Environmental hazards:** Not applicable  
**Special precautions for user:**  
**Special Provisions:** None

**15. REGULATORY INFORMATION**

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

**National regulations:**

**Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

This product does not contain substances subject to restriction (UK REACH - Annex XVII).

[cont...]

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**Persistent Organic Pollutants:** Not applicable

**Export Notification requirements:** Not applicable

**Named dangerous substances per COMAH Regulations 2015 (as amended):** Not applicable

**The Ozone-Depleting Substances Regulations 2015:** Not applicable

**The Biocidal Products Regulations 2001 (as amended):**

Chemical name	The Biocidal Products Regulations 2001 (as amended)
CITRIC ACID ANHYDROUS - 77-92-9	Product-type 2: Disinfectants and algaecides not intended for direct application to humans or animals

**The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended):** Not applicable

**Poisons Act 1972 (Explosive Precursors) Regulations (as Amended):** Not applicable

**International Inventories:**

- TSCA Contact supplier for inventory compliance status
- DSL/NDSL Contact supplier for inventory compliance status
- EINECS/ELINCS Contact supplier for inventory compliance status
- ENCS Contact supplier for inventory compliance status
- IECSC Contact supplier for inventory compliance status
- KECI Contact supplier for inventory compliance status
- PICCS Contact supplier for inventory compliance status
- AIIC Contact supplier for inventory compliance status
- NZIoC Contact supplier for inventory compliance status

**Legend:**

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AIIC - Australian Inventory of Industrial Chemicals
- NZIoC - New Zealand Inventory of Chemicals

**Chemical safety assessment:**

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

**Note:** The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

**16. OTHER INFORMATION**

**Key or legend to abbreviations and acronyms used in the safety data sheet:**

**Full text of H-Statements referred to under section 3:**

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

[cont...]

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**Legend:**

SVHC: Substances of Very High Concern for Authorisation:

**Legal disclaimer:**

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.