SAFETY DATA SHEET
CITRIC ACID ANHYDROUS TECH

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

1.1. Product identifier

Product name: CITRIC ACID ANHYDROUS TECH
Chemical name: Citric Acid
Product number: 2673
REACH registration number: 01-2119457026-42-0000
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: Laboratory reagent. Descaler.
Uses advised against: No specific uses advised against are identified. Use only for intended applications.

1.3. Details of the supplier of the safety data sheet

Supplier: Reagent Chemical Services
11b - 13 Aston Fields Road
Whitehouse Industrial Estate
Runcorn
Cheshire WA7 3DL
T: 01928 716903 (08.30 - 17.00)
F: 01928 716425
E: info@reagent.co.uk

1.4. Emergency telephone number

Emergency telephone: OHES Environmental Ltd 24-7
Tel. 0333 333 9939 (24 hour)

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
Environmental hazards: Not Classified

2.2. Label elements

EC number: 201-069-1
CITRIC ACID ANHYDROUS TECH

Pictogram

Signal word Warning

Hazard statements H319 Causes serious eye irritation.

Precautionary statements P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. 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.

Supplementary precautionary statements P264 Wash contaminated skin thoroughly after handling.

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 TECH
Chemical name Citric Acid
REACH registration number 01-2119457026-42-0000
CAS number 77-92-9
EC number 201-069-1
Composition comments Free flowing citric acid in powder or granular form.

SECTION 4: First aid measures

4.1. Description of first aid measures
General information Remove affected person from source of contamination. Get medical attention if any discomfort continues.

Inhalation Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.

Ingestion Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention.

Skin contact Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if irritation persists after washing.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes. Get medical attention if irritation persists after washing.

Protection of first ailers First aid personnel should wear appropriate protective equipment during any rescue.

4.2. Most important symptoms and effects, both acute and delayed
General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
CITRIC ACID ANHYDROUS TECH

Inhalation
May cause respiratory system irritation.

Ingestion
May cause irritation. May cause stomach pain or vomiting.

Skin contact
May cause irritation. Itchiness. Redness.

Eye contact
Irritating to eyes. Prolonged or repeated exposure may cause severe irritation.

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

Notes for the doctor
Treat symptomatically.

Specific treatments
No specific chemical antidote is known to be required after exposure to this product.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire. Water spray, foam, dry powder or carbon dioxide.

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
No specific firefighting precautions applicable when small quantities are involved in the fire.

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Carbon monoxide (CO). Carbon dioxide (CO2).

5.3. Advice for firefighters

Protective actions during firefighting
Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Contain and collect extinguishing water.

Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Wear chemical protective suit. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin and eyes. Avoid inhalation of dust. Provide adequate ventilation.

For emergency responders
Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions
Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up
Wear protective clothing as described in Section 8 of this safety data sheet. Avoid generation and spreading of dust. Small Spillages: Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Large Spillages: Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into suitable waste disposal containers and seal securely. Dispose of this material and its container to hazardous or special waste collection point. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections
CITRIC ACID ANHYDROUS TECH

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

Usage precautions
Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of dust and contact with skin and eyes. Avoid generation and spreading of dust. Wash hands thoroughly after handling.

Advice on general occupational hygiene
Do not eat, drink or smoke when using this product. Good personal hygiene procedures should be implemented. Provide eyewash station. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions
Store in tightly-closed, original container in a dry and cool place. Store away from incompatible materials (see Section 10). Only store in correctly labelled containers.

Storage class
Chemical storage.

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

Occupational exposure limits
Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ dust only
Short-term exposure limit (15-minute): WEL 10 mg/m³ dust only

WEL = Workplace Exposure Limit

PNEC
- Fresh water; 0.44 mg/l
- Marine water; 0.044 mg/l
- STP; 1000 mg/l
- Sediment (Freshwater); 34.6 mg/kg
- Sediment (Marine water); 3.46 mg/kg
- Soil; 33.1 mg/kg

8.2. Exposure controls

Protective equipment
Provide adequate general and local exhaust ventilation.

Appropriate engineering controls

Eye/face protection
Wear tight-fitting, dust-resistant, chemical splash goggles if airborne dust is generated. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection
Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374. The breakthrough time for any glove material may be different for different glove manufacturers. For exposure up to 8 hours, wear gloves made of the following material: Nitrile rubber. Thickness: 0.35 mm Polyvinyl chloride (PVC). Thickness: 0.50 mm Butyl rubber. Thickness: 0.5 mm 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. Frequent changes are recommended.
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Other skin and body protection
Provide eyewash station. Wear appropriate clothing to prevent skin contamination.

Hygiene measures
Good personal hygiene procedures should be implemented. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Contaminated clothing should be placed in a closed container for disposal or decontamination. Warn cleaning personnel of any hazardous properties of the product.

Respiratory protection
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Particulate filter, type P2. Particulate filters should comply with European Standard EN143. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140. Check that the respirator fits tightly and the filter is changed regularly.

Environmental exposure controls
Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid. Powder.</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless.</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless.</td>
</tr>
<tr>
<td>pH</td>
<td>pH (diluted solution): 1.8 5</td>
</tr>
<tr>
<td>Melting point</td>
<td>153°C</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>Technically not feasible.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Scientificly unjustified.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>0 hPa @ 25°C REACH dossier information.</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.67 @ 20°C</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Soluble in water. ~ 590 g/l water @ 20°C</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>log Kow: -0.2 to -1.8</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>1010°C REACH dossier information.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No specific test data are available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not considered to be explosive.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Does not meet the criteria for classification as oxidising.</td>
</tr>
</tbody>
</table>

9.2. Other information

Other information
None.

SECTION 10: Stability and reactivity

10.1. Reactivity

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**Reactivity**

**10.2. Chemical stability**

**Stability**
Stable at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

**Possibility of hazardous reactions**
May generate heat.

**10.4. Conditions to avoid**

**Conditions to avoid**
Avoid exposure to high temperatures or direct sunlight. Avoid the accumulation of dust. Avoid freezing.

**10.5. Incompatible materials**

**Materials to avoid**
Avoid contact with the following materials: Strong alkalis. Strong oxidising agents. Chemically-active metals. May be corrosive to metals. Amines.

**10.6. Hazardous decomposition products**

**Hazardous decomposition products**
Does not decompose when used and stored as recommended.

### SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

**Acute toxicity - oral**

<table>
<thead>
<tr>
<th>Acute toxicity oral (LD₅₀ mg/kg)</th>
<th>5,400.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species</strong></td>
<td>Mouse</td>
</tr>
<tr>
<td><strong>Notes (oral LD₅₀)</strong></td>
<td>LD₅₀ 11700 mg/kg, Oral, Rat REACH dossier information.</td>
</tr>
<tr>
<td><strong>ATE oral (mg/kg)</strong></td>
<td>5,400.0</td>
</tr>
</tbody>
</table>

**Acute toxicity - dermal**

<table>
<thead>
<tr>
<th>Acute toxicity dermal (LD₅₀ mg/kg)</th>
<th>2,000.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species</strong></td>
<td>Rat</td>
</tr>
<tr>
<td><strong>Notes (dermal LD₅₀)</strong></td>
<td>LD₅₀ &gt;2000 mg/kg, Dermal, Rat REACH dossier information.</td>
</tr>
</tbody>
</table>

**Acute toxicity - inhalation**

| **Notes (Inhalation LC₅₀)** | Based on available data the classification criteria are not met. |

**Skin corrosion/irritation**

| **Skin corrosion/irritation** | Not irritating., REACH dossier information. |

**Serious eye damage/irritation**

| **Serious eye damage/irritation** | Causes eye irritation. |

**Respiratory sensitisation**

| **Respiratory sensitisation** | Not sensitising. |

**Skin sensitisation**

| **Skin sensitisation** | Not sensitising. |

**Germ cell mutagenicity**

| **Germ cell mutagenicity** | 6/9 |
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Genotoxicity - in vitro
Based on available data the classification criteria are not met.

Genotoxicity - in vivo
Based on available data the classification criteria are not met.

Carcinogenicity
Scientifically unjustified.

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

Reproductive toxicity - development
This substance has no evidence of toxicity to reproduction.

Specific target organ toxicity - single exposure
STOT - single exposure
No specific test data are available.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
LD₅₀ 5.66 mg/kg/day, Oral, Rat

Aspiration hazard
Aspiration hazard
Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation
May cause respiratory irritation.

Ingestion
Symptoms following overexposure may include the following: Nausea, vomiting. Stomach pain.

Skin contact
May cause irritation.

Eye contact
Irritating to eyes.

SECTION 12: Ecological Information

Ecotoxicity
The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

12.1. Toxicity
Acute toxicity - fish
LC₅₀, 96 hours: 440-760 mg/l, Leuciscus idus (Golden orfe)

Acute toxicity - aquatic invertebrates
EC₅₀, 24 hours: 1535 mg/l, Daphnia magna

12.2. Persistence and degradability
Persistence and degradability
The product is readily biodegradable.

12.3. Bioaccumulative potential
Bioaccumulative potential
Bioaccumulation is unlikely.

Partition coefficient
log Kow: -0.2 to -1.8

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
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Other adverse effects
None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information
When handling waste, the safety precautions applying to handling of the product should be considered. The generation of waste should be minimised or avoided wherever possible. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

Disposal methods
Reuse or recycle products wherever possible. 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
Not applicable.

14.2. UN proper shipping name
Not applicable.

14.3. Transport hazard class(es)
No transport warning sign required.

Transport labels
No transport warning sign required.

14.4. Packing group
Not applicable.

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user
Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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
Not applicable.

SECTION 15: Regulatory information

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

EU legislation
CITRIC ACID ANHYDROUS TECH

Guidance
Workplace Exposure Limits EH40.

Authorisations (Title VII Regulation 1907/2006)
No specific authorisations are known for this product.

Restrictions (Title VIII Regulation 1907/2006)
No specific restrictions on use are known for this product.

15.2. Chemical safety assessment
A chemical safety assessment has been carried out.

Inventories
EU - EINECS/ELINCS
All the ingredients are listed or exempt.

SECTION 16: Other information

General information
This datasheet is not intended to be a replacement for a full risk assessment, these should always be carried out by competent persons.

Key literature references and sources for data

Revision comments
Full revision

Revision date
05/09/2019

Revision
5

Supersedes date
22/09/2017

SDS number
20984

SDS status
Approved.

Risk phrases in full
Industry - Dermal; Long term systemic effects 22 mg/kg/day
R36 Irritating to eyes.

Hazard statements in full
H319 Causes serious eye irritation.