

**DRI-PAK LIMITED**

SAFETY DATA SHEET in accordance with Regulation (EC) 1907/2006 and Regulation (EU) 453/2010

Product: **CITRIC ACID**

MSDS 17/02/D

Version 1

Date compiled October 2011

Revision 2

Date revised October 2019

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**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product Identifier**Product Name **Citric Acid**

Chemical Name Citric acid monohydrate, 2-hydroxypropane-1,2,3-tricarboxylic acid

CAS Number 77-92-9

EC Number 201-069-1

REACH Registration number 01-2119457026-42-0006

**1.2 Relevant identified uses of the substance/mixture and uses advised against**

Generally used as an appliance descaler.

**1.2.1 Uses advised against Do not mix with alkalis****1.3 Details of the supplier of the safety data sheet**

Company Details	Dri-Pak Limited, Furnace Road, Ilkeston, Derbyshire, DE7 5EP
Telephone	0115 9 325165
Fax	0115 9 440297
E-mail address	bruce@dripak.co.uk

**1.4 Emergency Telephone Number**Emergency Number 07836 697940

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**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**2.1.1 Classification according to Regulation (EC) 1272/2008  
Eye irritant 2**2.2 Label elements**

2.2.1 Labelling according to Regulation (EC) 1272/2008

Hazard Pictogram



Signal Word

Warning

Hazard Statements

H319 Causes serious eye irritation

Precautionary Statements:

P102: Keep out of reach of children.

P264: Wash hands thoroughly after handling.

P280 Wear eye 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.

**2.3 Other hazards**

The substance is not identified as a PBT or vPvB substance.

No other hazards identified.

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

3.1/2 Substance/Mixture

Constituent	Formula	Purity %w/w (typical)	CAS Number	EC Number
Citric acid monohydrate	CH <sub>8</sub> O <sub>7</sub> H <sub>2</sub> O	>99.0	77-92-9	201-069-1
Impurities				
None identified.				

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**4. FIRST AID MEASURES****4.1 Description of first aid measures**

- 4.1.1 General advice Take off all contaminated clothing. No known delayed effects.
- Inhalation Move to fresh air, keep warm and at rest. If symptoms persist seek medical advice.
- Skin contact Remove contaminated clothing. Wash the skin with plenty of water until no 'soapy' feeling remains. Obtain medical attention if symptoms, e.g. redness or irritation, develop.
- Eye contact Remove contact lenses if present. The eye should be thoroughly irrigated with clean water for not less than 15 minutes. Obtain medical attention if symptoms develop.
- Ingestion Wash out mouth with water and give plenty of water to drink. Do not induce vomiting. If patient feels unwell obtain medical attention.
- Further Medical Treatment Symptomatic treatment and supportive therapy as indicated.

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

Skin contact: Irritation may occur.

Eye contact: Redness or irritation may occur.

Ingestion: May cause coughing..

Inhalation: There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing.

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

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**5. FIRE FIGHTING MEASURES****5.1 Extinguishing media**

Will char and burn and packaging will burn.

**5.1.1 Suitable extinguishing media**

Use extinguisher suitable for surrounding fire conditions.

**5.1.2 Unsuitable extinguishing media**

No further information available.

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

In combustion emits toxic fumes of carbon dioxide and carbon monoxide.

**5.3 Advice for fire fighters**Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

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**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

6.1.1 For non emergency personnel

Keep dust levels to a minimum.

6.1.2 For emergency responders

In the event of accidental release of bulk solid wear suitable gloves and eye/face protection. Use vacuum suction or shovel into containers for re-use or disposal according to local legislation. The affected area can be cleaned with plenty of water.

**6.2 Environmental precautions**

Prevent uncontrolled discharges into the environment.

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

Refer to 6.1 above.

**6.4 Reference to other sections**For personal protection see Section 8.

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**7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

Always follow good personal hygiene when working with this product. Wash promptly with soap and water if skin becomes contaminated. Do not breathe dust. Avoid contact with skin and eyes. Keep dust levels to a minimum. Ensure adequate ventilation.

**7.2 Conditions for safe storage, including any incompatibles**

Store in a cool well-ventilated place in the original closed containers. Avoid contact with alkalis and finely divided metals.

Keep out of reach of children.

**7.3 Specific end use(s)**Refer to label on container.

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**8. EXPOSURE CONTROLS /PERSONAL PROTECTION****8.1 Control parameters**Exposure limits (WEL) Respirable dust: 8 hour TWA, 10mg/m<sup>3</sup>. 15min STEL, 4mg/m<sup>3</sup>.**8.2 Exposure controls****8.2.1 Appropriate engineering controls**

Provide adequate general ventilation. Provide appropriate exhaust ventilation at places where dust is formed. Apply technical measures to comply with the occupational exposure limits.

**8.2.2 Personal protective equipment**

Respiratory protection	In the case of high dust levels wear suitable respiratory protective equipment e.g. dust mask or respirator, that conform international standard, EN143. Recommended filter type P1.
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Eye protection	Wear eye/face protection rated to protect eyes against dust (EN166) e.g. safety eye shields with dust protection, goggles or face visor.
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Skin protection	Dust impervious protective suit rubber or plastic boots where appropriate. Gloves are recommended for people with sensitive or damaged skin. Avoid prolonged contact with skin. Rinse hands after use.
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Industrial Hygiene	Normal standards of industrial hygiene should be observed.
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Disposal	Empty container thoroughly before disposal and recycle where possible.
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**8.2.3 Environmental exposure controls**Contain any large spillage, avoid large discharges to the environment. Dispose of any large rinse water in accordance with local and national regulations.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

Appearance	fine white granules
Odour	odourless
Odour threshold	currently not available
pH	1.7
Melting point/Freezing Point	153° C
Initial boiling point and boiling point range	not applicable
Flash point	not applicable
Evaporation rate	not applicable
Flammability (solid, gas)	currently not available
Upper flammability or explosive limits	currently not available
Vapour pressure	not applicable
Vapour density	not applicable
Relative density (bulk density)	1.66
Solubility(ies)	Soluble in water, also soluble in ethanol, diethylether
Partition coefficient: n-octanol/water	currently not available
Autoignition temperature	currently not available
Decomposition temperature	currently not available
Viscosity	not applicable
Explosive properties	not explosive
Oxidising properties	non-oxidising (by EC criteria)

**9.2 Other information**

No other information available.

**10. STABILITY AND REACTIVITY****10.1 Reactivity****10.2 Chemical stability****10.3 Possibility of hazardous reactions**

Stable under normal conditions.

Liberates carbon dioxide when mixed with carbonates. Solutions may react with new surfaces of aluminium and zinc and their alloys to produce hydrogen.

**10.4 Conditions to avoid**

Strong heat causing the product to char and liberate toxic fumes,

**10.5 Incompatible materials**

Strong oxidising agents. Strong bases.

**10.6 Hazardous decomposition products**

In combustion emits toxic fumes of carbon dioxide and carbon monoxide,.

**11. TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects**

Oral Rat LD50 11700 mg/kg Oral MUS LD50 5400 mg/kg (mouse)

Dermal RBT LD50 &gt;2000 mg/kg. (rabbit)

Inhalation High concentrations of dust will irritate the respiratory system.

Skin contact May cause skin irritation.

Eye contact Irritating to the eyes. May cause corneal damage in severe circumstances.

Ingestion May result in a burning sensation in the mouth and throat, inability to swallow, and irritation of the gastro-intestinal tract with nausea and vomiting.

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**12. ECOLOGICAL INFORMATION****12.1** Toxicity

No specific information available.

**12.2** Persistence and degradability

Biodegradable.

**12.3** Bioaccumulative potential

No bioaccumulation expected.

**12.4** Mobility in soil

Soluble in water.

**12.5** Results of PBT and vPvB assessment

Not identified as a PBT or a vPvB substance.

**12.6** Other adverse effects

Negligible ecotoxicity.

No environmental hazard is likely provided the product is handled and disposed of with due care in accordance with normal household practice on following the instructions on the label.

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**13. DISPOSAL CONSIDERATIONS****13.1** Waste treatment methods

Disposal should be in accordance with local, county or national legislation. Small quantities may be washed away using plenty of water. Dispose of contents by using as per directions for use. Recycle empty container where possible.

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**14. TRANSPORT INFORMATION**

In its normal packaging this product is not classified as hazardous for transport.

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

Health, safety and environmental details to be shown on label. Ref. Regulation (EC) 1272/2008..

Refer to Section 2.

**15.2** Chemical safety assessment

A Chemical safety assessment has been undertaken on citric acid by our supplier.

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**16. OTHER INFORMATION**

Changes made to Revision 0: Reference to EU Directive 67/548 EEC deleted.

Revision 2: content reviewed : sole change: new MSDS code inserted.

Abbreviations and acronyms

PBT Persistent, Bioaccumulative, Toxic

vPvB very Persistent, very Bioaccumulative

WEL : Workplace exposure limit

STEL Short term exposure limit

TWA Time weighted average

The product information in this Data Sheet is, to the best of Dri-Pak's knowledge, correct as at the date of publication. No warranty is implied with respect to the quality or the specification of the product. The user must satisfy himself/herself that the product is suitable for his/her purpose.

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