

MATERIAL SAFETY DATA SHEET

Product name **Citric Acid Anhydrous**

5. FIRE-FIGHTING MEASURES

Flashpoint	Not available
Lower flammable limits	8% at 65 °C / 149 °F
Upper flammable limits	Not available
Auto-ignition temperature	345 °C / 653 °F
Suitable extinguishing media	water, water spray, dry powder, foam, carbon dioxide (CO ₂).
Extinguishing media which must not be used for safety reasons	None.
Hazardous decomposition products	Carbon oxides
Special protective equipment for firefighters	Use personal protective equipment.
Specific methods	Standard procedure for chemical fires.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use personal protective equipment. Avoid contact with skin and eyes.
Environmental precautions	No special environmental precautions required.
Methods for cleaning up	Sweep up and shovel. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling	
Technical measures/Precautions	Avoid dust formation. Take precautionary measures against static discharges.
Safe handling advice	Use personal protective equipment.
Storage	
Technical measures/Storage conditions	Keep tightly closed in a dry and cool place.
Incompatible products	Strong oxidizing agents, strong bases.
Packaging material	Polyethylene coated paper bags or polyethylene/propylene big bags.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure	Ensure adequate ventilation, especially in confined areas.
Exposure limit(s)	No special precautions required.
Personal protective equipment	
Respiratory protection	Effective dust mask
Hand protection	Gloves
Eye protection	Safety glasses
Skin and body protection	Lightweight protective clothing
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

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Form	Powder / crystalline
Colour	White / colourless
Odour	None
Odour Threshold	N.A.
pH Solution (5 %) (25°C/77°F)	1.80
Vapour pressure	Practically zero at room temperatures
Vapour density	N.A.
Melting point/range	153°C / 307°F
Boiling point	N.A.
Decomposition temperature	> 170°C / > 338°F
Auto-ignition temperature	345 °C / 653 °F
Explosive properties, risk of explosion:	Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Relative density	1.665 g/cm ³
Bulk density granular	850 - 950 kg/m ³
powder	550 - 650 kg/m ³
Solubility	
Water solubility (25°C/77°F)	61.8 % (w/w)
Solubility in other solvents	
Ethanol (25°C/77°F)	38.3 % (w/w)
Coefficient of water / oil distribution	Log P (oct) -1.72 (measured) Log P (oct) -1.25 to -1.80 (calculated)

10. STABILITY AND REACTIVITY

Stability	Stable at normal conditions.
Conditions to avoid	Avoid dust formation. Take precautionary measures against static discharges.
Materials to avoid	Incompatible with strong bases and oxidizing agents.
Hazardous decomposition products	No decomposition if stored normally. Thermal decomposition can lead to release of irritating gases and vapours.
Corrosion	May corrode metals. 316 Stainless steel recommended material for handling.

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15. REGULATORY INFORMATION

WHMIS - Class D Division 2B

IDL - Citric Acid (CAS-No. 77-92-9) is listed in the Ingredient Disclosure List

DSL - Citric Acid (CAS-No. 77-92-9) is listed in Domestic Substance List

HMIS - Health – 1 ; Flammability – 0 ; Reactivity - 0

TSCA - Citric Acid (CAS-No. 77–92–9) is listed on the TSCA Inventory

TSCA 8(d) - Citric Acid (CAS-No.77-92-9) exempted from regulations

According to European Community Directive 67/548/EEC, as amended, the product shall be labelled:

Symbol(s):	Xi - Irritant
Risk -phrase(s):	R36 - Irritating to eyes.
Safety -phrase(s)	S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

References:

ECAMA Internal Report 1998

Citric acid has irritancy equivalent to fumaric acid see Annex 1 Directive 67/548/EEC.

Directive 67/548/EEC Annex 7, non toxic to the environment.

16. OTHER INFORMATION

USA FDA GRAS Status Food Additive E 330

HMIS Letter E: Wear personal protective equipment: Gloves; Safety Glasses,
Dust Respirator

MSDS Status: Company Name changed 24th of March 2003

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.