

Jungbunzlauer
MATERIAL SAFETY DATA SHEET

Citric Pickle
145.143

Product name **Citric Acid Anhydrous**

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

Product name **Citric Acid Anhydrous**

Supplier **JUNGBUNZLAUER Canada Inc.**

**1555 Elm Street, Port Colborne, Ontario L3K 5V4
CANADA**

Telephone 1 (905) 835 54 44

Telefax 1 (905) 835 00 61

24 h Emergency telephone number **CHEMTREC 1 – 800 – 424 – 9300**

Product Information Additive for foods and pharmaceuticals

2. COMPOSITION/INFORMATION ON INGREDIENTS

Citric acid anhydrous

Chemical name of the substance $C_6H_8O_7$

Chemical Name 2-hydroxypropane-1,2,3-tricarboxylic acid
anhydrous

Synonyms Citric Acid

EC-No. 201-069-1

CAS-No. 77-92-9

Hazardous impurities None.

3. HAZARDS IDENTIFICATION

Most important hazards: Irritating to eyes.

May cause skin irritation and respiratory tract irritation.

4. FIRST AID MEASURES

General advice Consult a physician.

Major effects of exposure: Irritating to eyes. May cause skin irritation in susceptible persons.

Inhalation Move to fresh air.

Skin contact Wash off immediately with soap and plenty of water. If skin irritation persists, seek medical attention.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

If eye irritation persists, seek medical attention.

Ingestion Drink plenty of water. Do not induce vomiting. Seek medical attention.

Protection of first-aiders Use personal protective equipment.

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9. PHYSICAL AND CHEMICAL PROPERTIES

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 No data available

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/cm³

Bulk density granular 850 - 950 kg/m³

powder 550 - 650 kg/m³

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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11. TOXICOLOGICAL INFORMATION

Acute toxicity LD50/p.o./rat = 11.700 mg/kg (1) LD50/i.p./rat = 883 mg/kg (2) LD50/p.o./mouse = 5.040 mg/kg (1) LD50/i.v./mouse = 42 mg/kg (1) LD50/i.p./mouse = 961 mg/kg (2)

Local effects Irritating to eyes. May cause skin irritation and respiratory tract irritation.

Chronic toxicity None.

Human experience Health injuries are not known or expected under normal use.

Carcinogenic Characteristic This product does not contain any substances that are considered by ACGIH, OSHA or NTP to be "probable" or "suspected" human carcinogens.

Reproductive toxicity No data available

Teratogenicity No data available

Mutagenic Characteristic negative⁽⁴⁾

References : (1) H.T. Yokotani et al, J. Takeda Res. Lab 30 (1) 25 (1971) (2) C.M. Gruber & W.A. Halbeisen, J. Pharmac. Exp. Ther. 94 65 (1948) (3) FDA 223-75-2004 (1977)

(4) Ames Test, Litton Bionetics Inc. 1975, Contract No. FDA 71-268

12. ECOLOGICAL INFORMATION

Mobility completely soluble

Persistence / degradability

Chemical oxygen demand (COD) = 750 ± 50 mg O₂ /g

Biochemical oxygen demand within

5 days (BOD₅) = 625 ± 50 mg O₂ /g

DIN 38412 Part 25 (DIN EN ISO 9888) Readily biodegradable (98 % after 2 days)*

Ecological toxicity

DIN 38412 Part 15 (DIN EN ISO 7346) Toxicity to fish 440 - 706 mg/l

DIN 38412 Part 5 Toxicity to bacteria >10.000 mg/l

Bioaccumulation None.

* Reference: P. Creach: C. R. Acad. Sci. Paris 240 2551 (1955)

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products Where possible recycling is preferred to disposal or incineration. Can be disposed in landfill or incinerated, when in compliance with local regulations.

Contaminated packaging Empty containers should be taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION

Not classified as dangerous according to TDG (Transportation of Dangerous Goods) and DOT (Department

of Transportation).

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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 creation date of April 2002

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.