

UNIVAR USA INC.
ISSUE DATE:2008-05-20
Annotation:

MSDS NO:P21822VS
VERSION:016 2008-10-27

The Version Date and Number for this MSDS is : 10/27/2008 - #016

PRODUCT NAME: CITRIC ACID ANHYDROUS
MSDS NUMBER: P21822VS
DATE ISSUED: 05/20/2008
SUPERSEDES: 07/01/2005
ISSUED BY: 006886

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMMERCIAL PRODUCT NAME: CITRIC ACID ANHYDROUS

Distributed by:
Univar USA Inc.
17425 NE Union Hill Rd.
Redmond, WA 98052
425-889-3400

24 Hour Emergency Phone Number: CHEMTREC 1-800-424-9300

PRODUCT USE: Widely used acidulant for flavoring, beverages, food, and as a basic chemical.

2. COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Name Of The Material: 2-hydroxy-1,2,3-propane tricarboxylic acid
Chemical Formula C6H8O7
Chemical Family Organic Acid
SYNONYMS: Citric Acid, Beta-hydroxytricarboxylic acid.

COMPOSITION:	CAS Req. No.	%
Citric Acid Anhydrous	77-92-9	100

EC-No. 201-069-1
European Food Additive E330
HAZARDOUS IMPURITIES None

3. HAZARDS IDENTIFICATION

Annotation:

Emergency Overview: Odorless, colorless translucent crystals with strong acidic taste. Citric acid is a skin and mucous membrane irritant and an eye irritant. It may cause allergic reactions in some individuals.

Most important Hazard: Irritating to eyes.

Potential Health Effects:

Inhalation: May cause mucous membrane irritation with sore throat, coughing and shortness of breath.

Eye contact: May cause irritation with redness, pain, possible eye burns, conjunctivitis, ulceration and permanent cloudiness.

Skin contact: May cause irritation with swelling, redness and pain.

Ingestion: May cause acute gastrointestinal irritation with abdominal pain.

Chronic: Repeated or prolonged skin contact may result in dermatitis. Prolonged or repeated eye contact may result in conjunctivitis. Long term oral overexposure may cause damage to tooth enamel.

Carcinogen status: None

4. FIRST AID MEASURES

General advice	Consult a physician.
Major effects of exposure:	Irritating to eyes and skin.
Inhalation	Move to fresh air.
Skin contact	Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
Eye contact	Rinse immediately with plenty of water and seek medical advice.
Ingestion	Drink plenty of water. Do not induce vomiting. Consult a physician if necessary
Protection of first-aiders	Use personal protective equipment.

5. FIRE FIGHTING MEASURES

FLASH POINT	Not Applicable
FLAMMABLE LIMITS	Lower 8 gm/FT3 Upper 65 gm/FT3
Autoignition temperature:	1010 deg C / 1850 deg F
Suitable extinguishing media	water, water spray, dry powder, foam , carbon dioxide (CO2), remove containers if possible. Cool container exposed to fire with water spray.

Extinguishing media which must not

Annotation:

be used for safety reasons None

Hazardous decomposition carbon oxides
products

Special protective equipment Use personal protective equipment including
for firefighters self-contained breathing apparatus when
fighting fire in enclosed area.

Specific methods Standard procedure for chemical fires.

6. ACCIDENTAL RELEASE MEASURES

General: Wear dust respirator and protective clothing. Keep unnecessary
personnel away. Sweep or vacuum into closed containers for disposal. Dispose
in compliance with local, state, and federal regulations.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes and prolonged contact with skin. Avoid
breathing large amounts of dust. Wash away splashes and spillages with water.

Storage Temperature General: Ambient storage pressure: atmospheric
Store in cool dry area away from incompatible materials and protected from
moisture. Protect containers from damage.

Incompatible products Empty Containers: Incompatible with strong bases and
oxidizing agents
Empty containers retain product residue and vapors. Observe all label
precautions even after container is emptied. Do not reuse unless thoroughly
cleaned.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering measures Provide general dilute ventilation.
Exposure limit(s) None established for this ingredient,
use OSHA PEL, ACGIH TLV for Nuisance dusts of 5 mg/3

Personal protection equipment

Respiratory protection NIOSH approved dust respirator
Hand protection Gloves
Eye Protection Safety glasses
Skin and body Lightweight protective clothing
protection

Hygiene measures Handle in accordance with good industrial hygiene and
safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form crystalline powder
Color colorless / white

Annotation:

Odor	none
pH (5 % solution)	1.8
Vapor pressure	3.70E-009mm Hg@25 deg C
Vapor density	not applicable
Boiling point	175 deg C
Evaporation rate	essentially 0
Coefficient of water/oil	-1.72 (measured)
distrib Log P (oct)	
Log P (oct)	-1.25 to -1.80 (calculated)
Melting point/range	153 deg C
Decomposition temperature	> 170 deg C
Relative density	1,665 g/cm ³
Bulk density	650 - 950 kg/m ³
Solubility, Water solubility (25 deg C)	576 g/kg
Solubility in other solvents, Alcohol (25 deg C)	383 g/l
Molecular weight	192.12

10. STABILITY AND REACTIVITY

Stability	Stable at normal conditions
Conditions to avoid	Avoid dust formation and moisture. Take precautionary measures against static discharges.
Materials to avoid	Incompatible with strong bases and oxidizing agents.
Hazardous polymerization	Does not occur.
Corrosion	May corrode metals. 316 Stainless Steel recommended for handling.

11. TOXICOLOGICAL INFORMATION

Acute toxicity	LD50/p.o./rat	11,700 mg/kg
	LD50/i.p./rat	885 mg/kg
	LD50/p.o./mouse	5,040 mg/kg
	LD50/I.p./mouse	961 mg/kg
Local effects	Irritating to eyes and skin	
Chronic toxicity	None	
Human experience	Health injuries are not known or expected under normal use.	

12. ECOLOGICAL INFORMATION

Mobility	Completely soluble
Persistence and degradability	
Chemical oxygen demand	(COD) = 728 mg O ₂ /g

Annotation:

Biological oxygen demand/5 days	(BOD) = 528 mg O ₂ /g
Readily biodegradable	98% after 2 days
Bioaccumulation	None
Ecotoxicity effects	Toxicity to fish (LC50/96h/goldfish) = 440-706 mg/L Toxicity to bacteria(ECO) = >10,000 mg/L

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products
Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

Citric acid is generally regarded as safe (GRAS) by USA FDA. 21 CFR 184.1033
Meets the criteria for hazardous material as defined by OSHA Hazard Communication Standard 21 CFR 1910.1200.

The material is listed on the TSCA Inventory List.
CERCLA (Comprehensive Response Compensation, and Liability Act): Not hazardous
SARA Title III (Superfund Amendments and Reauthorization Bill): Not Considered Hazardous

Foreign Inventory Status
Canadian DSL (Domestic Substance List) WHMIS Class E
IDL Citric Acid (CAS-No. 77-92-9) is listed on the Ingredient Disclosure List
DSL Citric Acid (CAS-No. 77-92-9) is listed on the Domestic Substance List

To the best of our knowledge, this Citric Acid Anhydrous does not contain any contaminants or biproducts known to the State of California to cause cancer or reproductive toxicity as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act.

16. OTHER INFORMATION

HMIS* Rating Health = 1, Fire = 0, Reactivity =0
0=minimal, 1=slight, 2=moderate, 3=serious, 4=severe
*Hazardous Materials Identification System of the National Paint and Coating Association.

Univar USA Inc Material Safety Data Sheet

For Additional Information contact MSDS Coordinator during business hours, Pacific time: (425) 889-3400

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