



SAFETY DATA SHEET

TATE & LYLE CITRIC ACID

Tate & Lyle Citric Acid, 2200 Eldorado Street, Decatur, IL 62525

Date prepared: 02/02/99

Emergency phone number: CHETREC: 800-424-9300

Phone number for information: 8:00-4.30 M-F (217) 423-4411

1. PRODUCT IDENTIFICATION

Product name: Tate & Lyle Citric Acid, Anhydrous, FCC, USP

Chemical family: Organic Acid

Chemical name: 2-Hydroxy-1, 2, 3 Propanetricarboxylic Acid

CAS number: 77-92-9

2. HAZARDOUS INGREDIENTS

Ingredient name/CAS number: Hydroxy 1, 2, 3 Propanetricarboxylic Acid / 77-92-9

Exposure limits: OSHA- 5.00 mg/m³ (respirable dust) OACGIH- 5.00 mg/m³ (respirable dust)

3. PHYSICAL PROPERTIES

Physical form: Crystals

Appearance: Free flowing crystalline

Colour: White

Odor: Odorless with a strong acid taste

pH: Not established

Boiling point: n.a

Melting/freezing point: n.a

Solubility in water: 52.2g/ 100g at 68 F (20 C)

Solubility (non aqueous): Methyl alcohol: 197g /100g at 66.2 F (19 C)

Specific gravity: Not established

Bulk density: Not established

Volatile by volume: Not established

Vapour pressure: Not established

4. FIRE AND EXPLOSION DATA

The preparation does not cause risks in normal conditions of use

5. HUMAN HEALTH DATA

Routes of entry: Inhalation; skin contact; eye contact

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Acute skin contact: This product is irritating to the skin, resulting in reddening, stinging, and swelling

Acute eye contact: This product is irritating to the eyes, resulting in stinging, reddening, tearing and swelling

Chronic effects of exposure: No applicable information was found concerning any adverse chronic health effects from overexposure to this product

Carcinogenicity: The components of this product are not listed by NTP, IARC or regulated as carcinogen by OSHA

Medical Conditions: Aggravated by exposure – Persons with pre-existing eye or skin disorders may be more susceptible to the effects of this product.

Exposure limits: Although no exposure limit has been established for this product, the OSHA-PEL for nuisance dust of 15mg/ m³-total dust, 5mg/m³-respirable dust is recommended. In addition, the ACGIH-TLV for nuisance dust of 10mg/ m³ is recommended.

6. EMERGENCY AND FIRST AID PROCEDURES

First aid for eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call physician immediately.

First aid for skin: In case of contact, remove contaminated clothing, and flush skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Call a physician.

First aid inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

First aid for ingestion: If swallowed, call a physician.

7. EMPLOYEE PROTECTION RECOMMENDATIONS

Eye protection requirement: Chemical safety goggles.

Skin protection requirement: Rubber or vinyl gloves and long sleeved shirts and pants to minimise skin contact. Employees should wash their hands and face before eating, drinking or using tobacco products.

Respirator requirements: Work ambient concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved dust respirator should be worn.

Ventilation requirements: Use local ventilation if dusting is a problem, to maintain air levels below the recommended exposure limit.

Additional protective measures: Emergency showers and eye wash stations should be made available. Educate and train employees in the safe use and handling of this product.

8. FEDERAL REGULATORY INFORMATION

OSHA STATUS: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS: On TSCA Inventory

CERCLA REPORTABLE QUANTITY: None

SARA REPORTABLE QUANTITY: Exempt from SARA Title III reporting, contains no section 313 toxic chemical. It may contain up to the FCC limits for arsenic (1 ppm), lead (0.5 ppm), and heavy metals (5 ppm, as lead).

RCRA STATUS: If discarded in its purchased form, this product would not be hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

FDA STATUS: Citric Acid meets the specifications given in the Third Edition of the Food Chemicals Codex and is in chemical compliance with 21 CFR 182.1033 as a Multiple Purpose Generally Recognised As Safe Food Substance. Citric Acid meets the specifications given in the USP XXII including USP CCII Supplement 7.

9. OTHER REGULATORY INFORMATION

The following chemicals are specifically listed by individual states; other product specific health and safety data in other section of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

COMPONENT NAME/CAS NUMBER

2-Hydroxy-1,2,3 Propanetricarboxylic Acid 77-92-9

CONCENTRATION

100%

STATE CODE

PA3, NJ4

NJ4 = New Jersey Other – included in 5 predominant ingredients >1%

PA3 = Pennsylvania Non-hazardous preset at 3% or greater.

HMIS RATINGS

Health: 1

Flammability: 0

Reactivity: 0

0= minimal 1 = slight 2 = moderate 3 = serious 4= severe

Method of hazard communication is comprised of Product Labels and material Safety Data Sheets. HMIS ratings are provided as a customer service.

10. REACTIVITY DATA

Stability: This is a stable material

Hazardous polymerisation: Will not occur.

Incompatibilities: Reaction with caustic can create heat (strong exotherm). Solutions are mildly corrosive to carbon steel.

Instability conditions: None known.

Decomposition products: In case of fire CO, CO₂, and other potentially toxic fumes.

11. SPILL AND LEAK PROCEDURES

Spill or leak procedures: Clean by vacuum or broom sweeping and remove to disposal container.

Waste disposal method: Cover with soda ash or sodium bicarbonate to neutralise. Mix and add water if necessary. Scoop up slurry and dispose in accordance with existing federal, state and local environmental control regulations.

12. SPECIAL PRECAUTIONS & STORAGE DATA

Storage temperature (min/max): Max. 405 F (207 C) (product deteriorates)

Shelf life: Not established

Special sensitivity: None known

Handling/storage precautions: Avoid breathing dust. Avoid contact with eyes and skin. Wash thoroughly after handling. Store in a dry place away from excessive heat, in original or similar waterproof containers. Avoid air conveying of powdered, product due to potential of static build-up. Reseal container s immediately after use.

13. SHIPPING INFORMATION

Technical shipping name: Organic Acid

Freight class bulk: Chemicals, NOI

Freight class package: Chemicals, NOI, (NMFC 60000)

Product label: Tate & Lyle Citric Acid, Anhydrous, FCC, USP

DOT (HM-181) (DOMESTIC SURFACE)

HAZARD CLASS OR DIVISION: None required

IMO / IMG CODE (OCEAN)

HAZARD CLASS DIVISION NUMBER: Non- Regulated

ICAO/IATA (AIR)

HAZARD CLASS DIVISION NUMBER: Non-regulated

14. ANIMAL TOXICITY DATA

NO ANIMAL TOXICITY INFORMATION AVAILABLE.