



PO Box 32 ▾ 105 Liberty Street ▾ Winona, MN 55987 ▾ Phone: 800-533-0027 or 507-454-5640 ▾ Fax: 507-454-5641

FOR CHEMICAL EMERGENCY

Involving Shipping and Handling Spills, Leak, Fire, Exposure or Accident

Call CHEMTREC 1-800-424-9300

Complies with OSHA's Hazard Communication Standard 29 CFR 1910.1200

Section 1 - Product Identification

Product Name: Citric Acid, all sizes

Product ID: 0203X

Section 2 - Composition/Information on Ingredients

CHEMICAL NAME (COMMON NAME)

CAS NO.

Citric Acid Anhydrous

77-92-9

Section 3 - Hazards Identification

HMIS: Health 1 Flammability 0 Reactivity 0 PPE: E

EMERGENCY OVERVIEW: Irritating to eyes. May cause skin irritation and respiratory tract irritation.

Section 4 - First Aid Measures

GENERAL ADVICE: Consult a physician.

MAJOR EFFECTS OF EXPOSURE: Irritating to eyes. May cause skin irritation in susceptible persons.

EYES: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes lifting the upper and lower eyelids intermittently. If irritation develops or persists, seek medical attention.

SKIN: Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing and shoes before reuse. If skin irritation persists, seek medical attention.

INHALATION: Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, give oxygen.

INGESTION: Never give anything by mouth to an unconscious or convulsive person. If swallowed, do not induce vomiting. Give large amounts of water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops.

Section 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 (CO₂).

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.

Section 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.

Section 7 - Handling and Storage

HANDLING: Avoid breathing vapor or mist. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Avoid contact with heat, sparks and flame. Wash thoroughly after handling. When mixing, slowly add chemical to water. Never add water to chemical.

STORAGE: Do not store near combustible materials. Store in a cool, dry place. Keep container tightly closed and properly labeled. Keep separated from incompatible substances (see Section 10 of the MSDS).

Section 8 - Exposure Controls and Personal Protection

ENGINEERING MEASURES TO REDUCE EXPOSURE: Ensure adequate ventilation, especially in confined areas.

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.

Section 9 - Physical and Chemical Properties

FORM: white powder/crystalline
pH SOLUTION (5%): 1.80 (25°C/77° F)
VAPOR PRESSURE: Practically zero at room temperatures
MELTING POINT: 153°C/ 307° F
DECOMPOSITION TEMPERATURE: > 170°C / > 338° F
AUTO-IGNITION TEMPERATURE: 345°C/ 653° F

ODOR: odorless
WATER SOLUBILITY: 61.8 % (w/w)
VAPOR DENSITY: No data available
BOILING POINT: No data available
RELATIVE DENSITY: 1.665 g/cm³

Section 10 - Stability and Reactivity

STABILITY: Stable
CONDITIONS TO AVOID: Avoid dust formation. Take precautionary measures against static discharges.
MATERIALS TO AVOID: Incompatible with strong bases and oxidizing agents.
HAZARDOUS DECOMPOSITION: No decomposition if stored normally. Thermal decomposition can lead to release of irritating gases and vapors.
CORROSION: May corrode metals. 316 Stainless steel recommended material for handling.

Section 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 (17) LD50/i.p./mouse = 961 mg/kg (2)
LOCAL EFFECTS: Irritating to eyes. May cause skin irritation and respiratory tract irritation.
CHRONIC TOXICITY: None.
CARCINOGENIC: This product does not contain any substances that are considered by ACGIH, OSHA or NTP to be human carcinogens.
REPRODUCTIVE TOXICITY: No data available
TERATOGENICITY: No data available
MUTAGENIC CHARACTERISTIC: negative

Section 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

Section 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.

Section 14 - Transport Information

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

Section 15 - Regulations

WHMIS - Class E
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
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 LABELED:
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.

Section 16 - Other Information

SUPERSEDES DATE: July 21, 2008

The information and recommendations in this Material Safety Data Sheet are based upon data believed to be correct and does not relate to its use in combination with any other material or process. Since use conditions vary, we assume no liability for failure to follow product use direction and safety precautions. As data, standards and regulations change; NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.