



## MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive  
Matthews, NC 28105  
(704) 845 9440

www.ciscochem.com

1. PRODUCT NAME: Citric Acid
2. CHEMICAL NAME:
3. SYNONYMS:
4. CAS NUMBER: 77-92-9
5. COMPOSITION: Citric Acid (77-92-9) % By Weight: 100%

**IN CASE OF  
TRANSPORT EMERGENCY  
CONTACT CHEMTREC  
USA: 1-800-424-9300  
INTERNATIONAL: 1-703-527-3887**

6. PROPERTIES: PHYSICAL STATE AND APPEARANCE: Solid  
ODOR: Not available  
TASTE: Not available  
COLOR: Not available  
MOLECULAR WEIGHT: 192.13  
PH (1% SOLN/WATER): 1  
BOILING POINT: Decomposes  
MELTING POINT: 153 C (307.4 F)  
CRITICAL TEMPERATURE: Not available  
SPECIFIC GRAVITY: 1.665 (Water = 1)  
VAPOR PRESSURE: 0 mm of Hg @ 20 C  
VAPOR DENSITY (Air=1): Not available  
VOLATILITY: Not available  
ODOR THRESHOLD: Not available  
WATER/OIL DIST. COEFF.: 52.5  
IONICITY (IN WATER): Not available  
DISPERSION PROPERTIES: See solubility in water  
SOLUBILITY: Easily soluble in cold water  
STABILITY: This product is stable.  
INSTABILITY TEMPERATURE: Not available  
CONDITIONS OF INSTABILITY: No additional remark  
INCOMPATIBILITY WITH VARIOUS SUBSTANCES: No specific information is available in our data-base regarding the reactivity of the material in presence of various other materials.  
CORROSIVITY: Non-corrosive in presence of glass  
SPECIAL REMARKS ON REACTIVITY: No additional remark  
SPECIAL REMARKS ON CORROSIVITY: No additional remark  
POLYMERIZATION: No

7. HAZARDS: POTENTIAL ACUTE HELYH EFFECTS:  
Slightly dangerous to dangerous in case of ingestion, of inhalation. Very slightly to slightly dangerous in case of skin contact (irritant, permeator), of eye contact (irritant). Corrosive to eyes and skin. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. This product may irritate eyes and skin upon contact.
- POTENTIAL CHRONIC HEALTH EFFECTS:  
CARCINOGENIC EFFECTS: Not available  
MUTAGENIC EFFECTS: Not available  
TERATOGENIC EFFECTS: Not available  
The substance is toxic to mucous membranes. Toxicity of the product to the reproductive system: Not



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available. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

HMIS (U.S.A):

HEALTH HAZARD: 3

FIRE HAZARD: 1

REACTIVITY: 0

PERSONAL PROTECTION: j

NFPA (U.S.A):

HEALTH HAZARD: 0

FIRE HAZARD: 1

REACTIVITY: 0

SPECIFIC HAZARD: CORROSIVE

8. FIRE FIGHTING INFORMATION: FLAMMABILITY OF THE PRODUCT: Combustible  
AUTO-IGNITION TEMPERATURE: Not available  
FLASH POINTS: Not available  
FLAMMABLE LIMITS: Lower: 3.6%, Upper: 29%  
PRODUCTS OF COMBUSTION: These products are carbon oxides (CO, CO<sub>2</sub>).  
FIRE HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES: No specific information is available in our database regarding the flammability of this product in presence of various materials.  
EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES:  
RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF MECHANICAL IMPACT: Not available.  
RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF STATIC DISCHARGE: Not available.  
FIRE FIGHTING MEDIA AND INSTRUCTIONS:  
SMALL FIRE: Use DRY chemicals, CO<sub>2</sub>, water spray or foam.  
LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet  
SPECIAL REMARKS ON FIRE HAZARDS: No additional remark  
SPECIAL REMARKS ON EXPLOSION HAZARDS: No additional remark.
9. PERSONAL PROTECTION MEASURES: ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.  
PERSONAL PROTECTION: Splash goggles, Synthetic apron. Vapor and dust respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Gloves. Wear appropriate respirator when ventilation is inadequate.  
PERSONAL PROTECTION IN CASE OF A LARGE SPILL: Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
10. FIRST AID PROCEDURES: EYE CONTACT: Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Seek medical attention.  
SKIN CONTACT: If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If this chemical touches the victim's exposed skin such as the hands: Neutralize exposed skin with a dilute solution of sodium carbonate. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water



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may be used. If irritation persists, seek medical attention. Wash contaminate clothing before reusing.  
**SERIOUS SKIN CONTACT:** Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**INHALATION:** Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

**SERIOUS INHALATION:** Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**INGESTION:** DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek immediate medical attention.

**SERIOUS INGESTION:** DO NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damages, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

### 11. EXPOSURE NE LIMITS:

12. TOXICOLOGICAL ROUTES OF ENTRY: Ingestion. Inhalation.  
INFORMATION: TOXICITY TO ANIMALS: Acute oral toxicity (LD50): 5040 mg/kg (Mouse)  
CHRONIC EFFECTS ON HUMANS: The substance is toxic to mucous membranes. Toxicity of the product to the reproductive system: Not available  
OTHER TOXIC EFFECTS ON HUMANS: Slightly dangerous to dangerous in case of ingestion, of inhalation. Very slightly to slightly dangerous in case of skin contact (irritant, permeator), of eye contact (irritant).

13. ECOLOGICAL ECOTOXICITY: Not available  
INFORMATION: BOD5 AND COD: Not available  
PRODUCTS OF BIODEGRADATION: These products are carbon oxides (CO, CO2)  
TOXICITY OF THE PRODUCTS OF BIODEGRADATION: The products of degradation are more toxic  
SPECIAL REMARKS ON THE PRODUCTS OF BIODEGRADATION: No additional remark.

14. DISPOSAL Recycle to process, if possible. Consult your local or regional authorities.  
CONSIDERAIONS:

15. CARCINOGENIC NE  
PROPERTIES &  
NOTIFICATIONS:

16. TRANSPORT Not Regulated.  
INFORMATION:

17. HANDLING & PRECAUTIONS: Keep container dry. Keep away from heat. Keep away from sources of ignition.  
STORAGE: Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. DO NOT breathe dust. Never add water to this product. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible.  
STORAGE: Keep container dry. Keep in a cool place. Ground all equipment containing material. Corrosive materials should be stored in a separate safety storage cabinet or room.



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18. ACCIDENTAL RELEASE MEASURES: SMALL SPILL: Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate. LARGE SPILL: Corrosive solid. Stop leak if without risk. DO NOT get water inside container. DO NOT touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate.
19. REGULATORY INFORMATION: FEDERAL AND STATE REGULATIONS: The following products is (are) listed on TSCA: Citric Acid  
OTHER REGULATIONS: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)  
OTHER CLASSIFICATIONS: WHMIS (CANADA): WHMIS CLASS E: Corrosive solid. DSCLA (EEC): R35-Causes severe burns. R37-Irritating to respiratory system  
PROTECTIVE EQUIPMENT: Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.