# CITRIC ACID

## PRODUCT INFORMATION

CHEMICAL NAME: Citric Acid, Anhydrous
SYNONYM(S): 2-hydroxy-1,2,3-propanetricarboxylic acid
CHEMICAL FAMILY: Organic Acids
SHIPPING NAME: Citric Acid, Granular
MOLECULAR FORMULA: C6H8O7
PIN - (UN/NA): Not Applicable WHMIS: D.2B
PRODUCT USE:
Used as an acidualnt or a sequestrant in food and pharmaceutical industries; also used in detergents, concrete admixtures, and plasticizers.
MANUFACTURER: Debro Chemicals
11 Automatic Drive Brampton Ontario
L6S 4K6
SUPPLIER: Panther Industries Inc.
Box 628
Davidson, Sask. S0G 1A0
EMERGENCY TELEPHONE NUMBER: 306-567-2814

## HAZARDOUS INGREDIENTS

INGREDIENTS: Citric Acid, 2-hydroxy-1,2,3-propanetricarboxylic acid
WEIGHT 100%
C.A.S. REGISTRY NUMBER: 77-92-9

## PHYSICAL DATA

PHYSICAL STATE: Solid
ODOUR AND APPEARANCE: White powder or granules, odourless.
ODOUR THRESHOLD: Odourless
VAPOUR PRESSURE: Not applicable VAPOUR DENSITY: Not applicable
EVAPORATION RATE: Less than 1 pH: Data not available
BOILING POINT: Data not available MELTING POINT: 153oC
SOLUBILITY IN WATER: 162 g/100mL @ 25oC MOLECULAR WEIGHT: 192.13
SPECIFIC GRAVITY: 1.665 % VOLATILE BY VOLUME: 0
BULK DENSITY: Data not available
COEFFICIENT OF WATER/OIL DISTRIBUTION: Data not applicable

## FIRE AND EXPLOSION DATA

CONDITIONS OF FLAMMABILITY: Non-flammable
FLASH POINT: Data not available AUTO-IGNITION TEMPERATURE:345oC
UPPER FLAMMABLE LIMIT(% by vol): 8g/cu. ft.
LOWER FLAMMABLE LIMIT(% by vol): 65g/cu.ft.
MEANS OF EXTINCTION: Product does not burn. Use appropriate extinguishing media for material that is supplying the fuel to the fire.
HAZARDOUS COMBUSTION PRODUCTS: Data not available
SPECIAL FIRE FIGHTING PROCEDURES: No special procedure required.
EXPLOSION HAZARDS: Data not available. If in contact with reactive metal (iron, zinc, aluminum and their alloys) form hydrogen which may form explosive mixtures.



## REACTIVITY DATA

STABILITY: Stable under normal conditions
HAZARDOUS POLYMERIZATION: Will not occur
INCOMPATIBILITY: Incompatible with copper, zinc, aluminum, and their alloys due to corrosion. Avoid contact with metal nitrates and strong oxidizers.
REACTIONS: Decomposition products include carbon monoxide and carbon dioxide.
CONDITIONS TO AVOID: Contact with incompatibles.

## HEALTH HAZARD DATA

INHALATION: Dust may irritate the nose, eyes, throat, and respiratory tract, and may cause sore throat, coughing, and difficulty breathing.
SKIN CONTACT: May cause irritation.
EYE CONTACT: May cause eye irritation.
INGESTION: Irritation of mucous membranes. May cause gastrointestinal irritation.
CHRONIC EXPOSURE EFFECTS: Prolonged contact with the product may cause irritation.
EXPOSURE LIMITS: No limits available. No PEL or TLV set by OSHA and/or ACGIH.
IRRITANCY: Mild irritant
MUTAGENICITY: Data not available
CARCINOGENICITY: Not considered to be carcinogenic by NTP, IARC, or OSHA
SENSITIZATION TO PRODUCT: Data not available
REPRODUCTIVE TOXICITY: Data not available
TOXICOLOGICALLY SYNERGISTIC MATERIALS: Data not available
TERATOGENICITY DATA: Data not available
ANIMAL TOXICITY DATA: LD50(oral,mouse)= 5040 mg/kg; LD50(oral, rat)=6730 - 11700 mg/kg., dermal, acute 500 mg/24 hr. moderate, Eye 750 mg/25 hr severe

## FIRST AID MEASURES

INHALATION: Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
SKIN CONTACT: Remove contaminated clothing. Flush area with water for at least 15 minutes. Seek immediate medical attention.
EYE CONTACT: Immediately flush eyes with water for 15 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.
INGESTION: If victim is alert & not convulsing give a glass of water to dilute. If spontaneous vomiting occurs lean victim forward to avoid breathing vomits. Rinse mouth & give more water. Contact Poison Control Centre or physician immediately.

## PREVENTATIVE MEASURES

RESPIRATORY PROTECTION: NIOSH-approved respirator for dust should be



worn, if needed.
SKIN PROTECTION: Impervious gloves, body suits, boots, and other resistant protective clothing(rubber or PVC). Wash contaminated clothing with soap and water and dry before reuse.
EYE/FACE PROTECTION: Chemical goggles or safety goggles are to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
SPECIAL HANDLING PROCEDURES: Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid situations that could lead to harmful exposure.
STORAGE REQUIREMENTS: Store in a cool, well ventilated area, and away from sources of ignition and incompatible materials. Do not expose sealed containers to temperatures above 49oC
ENGINEERING CONTROLS: Local mechanical exhaust ventilation is normally required.
OTHER PRECAUTIONS:
Aqueous solutions of citric acid can, if in contact with reactive metal (iron, zinc, aluminum) form hydrogen which may form explosive mixtures.

## ENVIRONMENTAL PROTECTION DATA

STEPS IN THE EVENT OF A LEAK OR SPILL: Stop discharge and contain runoff from rainwater by dyeing with earth or other barrier. Sweep up material and contaminated soil for recovery or disposal.
ENVIRONMENTAL EFFECTS: May be harmful to aquatic life. Material is biodegradable in waste treatment facility.
DEACTIVATING CHEMICALS: Neutralize carefully with soda ash or sodium bicarbonate to a pH of 6 to 9.
WASTE DISPOSAL METHODS: Dispose in accordance with municipal, provincial and federal regulations.

## PREPARATION INFORMATION

MSDS PREPARED BY: TECHNICAL DEPARTMENT
Panther Industries Inc.
Ph.(306) 567-2814
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REFERENCES: 1. Manufacturers MSDS.