

MATERIAL SAFETY DATA SHEET

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Date Prepared: 1/24/07
Date Printed: 1/24/07
MSDS No.: 0305-01

Product: **Citric Acid**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: Citric Acid, Anhydrous, Powder
Chemical Formula: C₆H₈O₇
Product Code: CH-77929A
General or Generic ID: Not available.

Emergency Telephone Number:

1-800-451-8346

2. COMPOSITION / INFORMATION ON INGREDIENTS

| <u>CAS No.</u> | <u>Chemical Identity</u> | <u>Common Name</u> | <u>%</u> |
|----------------|--------------------------|--------------------|----------|
| 77-92-9 | Acid | Citric Acid | 100 |

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye:

Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by stinging, tearing, redness, and itching.

Skin:

Slightly hazardous in case of skin contact (irritant/sensitizer). Symptoms may include redness, burning of skin, or, occasionally, blistering.

Swallowing:

Hazardous in case of ingestion. Prolonged contact can be destructive to tissue.

Inhalation:

Hazardous in case of inhalation (lung irritant). Breathing large amounts or over-exposure by inhalation may cause respiratory irritation.

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Symptoms of Exposure:

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. Severe over-exposure can produce lung damage, choking, unconsciousness or death.

Development Information:

Not available.

The substance may be toxic to teeth.

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.

Cancer Information:

Not available.

Primary Route(s) of Entry:

Inhalation, skin absorption, skin contact, eye contact.

4. FIRST AID MEASURES

Inhalation:

If affected, promptly remove individual to fresh air. If not breathing, give oxygen. Get medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen clothing such as a collar, tie, belt or waistband.

If possible, do not leave individual unattended.

Eyes:

Spread eyelids with fingers and flush eye for minimum of 15 minutes with water; keep rotating the eyes to ensure complete flushing. Seek medical attention.

Skin:

Immediately remove contaminated clothing and thoroughly flush skin with plenty of water for at least 15 minutes. Seek medical attention if irritation from contact persists. Launder clothing before reuse.

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Note to Physicians:

Pre-existing disorders of the following organs (or organ systems) may be aggravated by exposure to this material: liver, kidney, and central nervous system.

5. FIRE FIGHTING MEASURES

May be combustible at high temperature.

Flash Point: Not applicable.

Explosive Limit: Not available.

Auto-ignition Temperature: Not applicable.

Hazardous Products of Combustion: The products are carbon oxides (CO,CO₂).

Extinguishing Media: SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray or fog. Do not use water jet.

SPECIAL FIRE-FIGHTING PROCEDURES: Not available.

NFPA CODES: Health = 2 Flammability = 1 Reactivity = 0

6. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled:

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.** Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Prevent product from entering sewer, drains or waterways. Eliminate ignition sources. 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.** Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

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7. PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container tightly closed. Keep in cool, well-ventilated place. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, alkalis.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection:

If overexposure has been determined or documented, a NIOSH/MSHA jointly approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators under specified conditions. (See your safety equipment supplier.) Engineering or administrative controls should be implemented to reduce exposure.

Skin Protection:

Wear resistant gloves. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Eye Protection:

Chemical splash goggles in compliance with OSHA regulations are advised.

Other Protective Clothing Or Equipment:

Splash goggles. Full suit. 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. Provide sufficient mechanical ventilation to maintain exposure below level of overexposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Solid. (Crystalline solid.)

Molecular Weight: 192.13 g/mole

Boiling Point: Not available.

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Melting Point: 153°C (307.4°F)
Specific Gravity: 1.665 (Water=1)
Vapor Pressure: Not applicable.
Evaporation Rate: Not available.
Solubility: Not available.

10. STABILITY AND REACTIVITY

Incompatibility: Excess heat, moisture/moist air, oxidizing materials, reducing agents, metals.
Stability: Stable
Hazardous Decomposition: Not available.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Primary routes of entry are inhalation and ingestion.
Acute oral toxicity (LD50): 3000 mg/kg [Rat].

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATION

Waste Disposal Method:
Dispose of in accordance with all applicable local, state and federal regulations.

14. DOT SHIPPING NAME & IDENTIFICATION:

NON-REGULATED. Not a DOT controlled material (United States).

15. OTHER INFORMATION

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The information accumulated herein is believed to be accurate but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that information is current, applicable, and suitable to their circumstances.