

MATERIAL SAFETY DATA SHEET

Issue Date: January 29, 2007

IDENTITY (As used on label and list)

Citric Acid Anhydrous USP/FCC

Section I

Ruger Chemical Company, Inc.
1515 West Blancke Street
Linden, New Jersey 07036

~~973-926-0331~~**Section II - Hazardous Ingredients/ Identity Information
Hazardous Components (Chemical Identity; Common Name)****Hazard Data
OSHA PEL**

Citric Acid, 2-Hydroxy-1,2,3-propanetricarboxylic acid

8-hr TWA for nuisance
particulateCas No. 77-92-9 C₆H₈O₇15 mg/m³ (total dust)orl-rat LD₅₀ 11,700 mg/kg5 mg/m³ (resp. fract.)

dermal acute 500mg/24hr moderate

ACGIH TLV

Eye 750 mg/24hr severe

TWA: 10mg/m³ (nuisance particulate)**Section III - Physical/Chemical Characteristics****Boiling Point**

Decomposes

Specific Gravity (H₂O = 1)

1.665

Vapor Pressure (mm Hg)

Not applicable - solid

Melting Point

153°C

Vapor Density (Air = 1)

Not applicable

Evaporation Rate (Butyl Acetate = 1)

>1

Solubility in water

Greater than 50%

Appearance and Odor

White odorless powder and/or granules

Section IV - Fire and Explosion Hazard Data**Flash Point (Method Used)**

Ignition temp. 1000 - 1020°C

Opt. 65 g/cuft

Flammable Limits LEL

Min. 8 g/cuft

UEL2.29 kg/m³**Extinguishing Media**

Water, carbon dioxide, foam, powder extinguisher.

Special Fire Fighting Procedures

Fire fighters wear protective clothing and NIOSH approved respirator.

Unusual Fire and Explosion Hazards

None - At optimum air concentration Bureau of Mines Relative: Explosive rating = Weak

HMIS rating

Health, 1, Flammability, 1, Reactivity, 0

Section V - Reactivity Data

MSDS Citric Acid Anhydrous USP/FCC pg2

Stability Stable Unstable
Stable under normal conditions.**Conditions to Avoid**
None known**Incompatibility (Materials to Avoid)**Metal nitrates, carbonate, bicarbonates and strong oxidizers
Citric acid corrodes copper, zinc, aluminum and their alloys**Hazardous Decomposition or Byproducts**

None known

Hazardous polymerization May Occur Will Not Occur
Will not occur**Conditions to Avoid**
Avoid generating dust**Section VI - Health Hazard Data****Routes of Entry:** Inhalation Skin Ingestion
Skin contact, Ingestion, Inhalation of mist.**Health Hazards (Acute and Chronic)**

Prolonged contact with the product may cause irritation.

Carcinogenicity

No

NTP?

No

IARC Monographs?

No

OSHA Regulated?

No

Signs and Symptoms of Exposure

May be slight eye irritant, long-term exposure to skin could be a mild irritant.

Medical Conditions Generally Aggravated by Exposure

No information available.

Emergency and First Aid ProceduresEyes-immediately flush with plenty of water for 15 minutes. Call a physician.
Skin-wash area with water, remove contaminated clothing and launder before reuse.**Section VII - Precautions for Safe Handling and Use****Steps to Be Taken in Case of Material is Released or Spilled**

Recover by vacuum or broom and shovel. Flush area with water to remove final traces.

Waste Disposal MethodConform to applicable federal, state and local regulations.
Landfill or neutralize and flush to drain. Material is biodegradable in waste treatment facility.**Precautions to Be Taken in Handling and Storing**

Store in a dry area.

Other Precautions

Aqueous solutions of Citric Acid can, if in contact with reactive metal (iron, zinc, aluminum) form hydrogen which may form explosive mixtures.

Section VIII - Control Measures**Respiratory Protection (Specify Type)**

NIOSH approved chemical respirator with dust and mist filter while handling crystalline material and concentrated solutions.

Ventilation

Local Exhaust

Mechanical(General)

Special

Other

Local exhaust sufficient to control dust.

Protective Gloves

Standard work gloves

Eye Protection

Safety Glasses

Other Protective Clothing or Equipment

None