

**MATERIAL SAFETY DATA SHEET**

Issue Date: February 4, 2004

**IDENTITY (As used on label and list)**  
Citric Acid Anhydrous USP/FCC**Section I****Manufacturers Name**  
Archer Daniels Midland Co  
**Address**  
P.O. Box 1470  
Decatur Illinois 62525**Emergency Telephone number**  
910-457-5011  
**Telephone Number for Information**  
217-451-7418**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 C<sub>6</sub>H<sub>8</sub>O<sub>7</sub>  
orl-rat LD<sub>50</sub> 11,700 mg/kg  
dermal acute 500mg/24hr moderate  
Eye 750 mg/24hr severe15 mg/m<sup>3</sup> (total dust)  
5 mg/m<sup>3</sup> (resp. fract.)  
**ACGIH TLV**  
TWA: 10mg/m<sup>3</sup> (nuisance particulate)**Section III - Physical/Chemical Characteristics****Boiling Point**  
Decomposes**Specific Gravity (H<sub>2</sub>O = 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 UEL**  
Min. 8 g/cuft 0.28 2.29 kg/m<sup>3</sup>**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

This MSDS is based upon a limited review of ADM files and standard Toxicological handbooks.

The information herein is furnished without warranty of any kind. This information should only be used as a supplement to information already in your possession concerning the product. The determination of whether and under what conditions the product should be used by your employees is yours to make.

## 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 Procedures

Eyes-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 Method

Conform 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 sufficient to control dust.

#### Local Exhaust

#### Mechanical(*General*)

#### Special

#### Other

#### Protective Gloves

Standard work gloves

#### Eye Protection

Safety Glasses

#### Other Protective Clothing or Equipment

None