

4/22/09

**SIGMA-ALDRICH****Material Safety Data Sheet**Version 3.0  
Revision Date 07/20/2007  
Print Date 12/15/2008**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : **Citric acid monohydrate**

Product Number : C1909  
Brand : Sigma-Aldrich

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
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Emergency Phone # : (314) 776-6555

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Formula : C<sub>6</sub>H<sub>8</sub>O<sub>7</sub>.H<sub>2</sub>O  
Molecular Weight : 210.14 g/mol

CAS-No.	EC-No.	Index-No.	Concentration [%]
<b>Citric acid monohydrate</b>			
5949-29-1	201-069-1	-	-

**3. HAZARDS IDENTIFICATION**

**Emergency Overview**  
**OSHA Hazards**  
Severe eye irritant  
Irritant

**HMS Classification**  
**Health Hazard:** 2  
**Flammability:** 1  
**Physical hazards:** 0

**NFPA Rating**  
**Health Hazard:** 2  
**Fire:** 1  
**Reactivity Hazard:** 0

**Potential Health Effects**

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** May be harmful if swallowed.

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**4. FIRST AID MEASURES**

**General advice**  
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**  
If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

**In case of skin contact**  
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**  
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**  
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIRE-FIGHTING MEASURES**

**Flammable properties**  
Flash point 173.9 °C (345.0 °F) - closed cup

Ignition temperature no data available

**Suitable extinguishing media**  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**  
Wear self contained breathing apparatus for fire fighting if necessary.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**  
Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

**Environmental precautions**  
Do not let product enter drains.

**Methods for cleaning up**  
Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE**

**Handling**  
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Storage**  
Keep container tightly closed in a dry and well-ventilated place.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**  
Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**  
Handle with gloves.

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**Eye protection**  
Safety glasses**Skin and body protection**

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form crystalline  
Colour white

**Safety data**

pH  
Melting point no data available  
Boiling point no data available  
Flash point 173.9 °C (345.0 °F) - closed cup  
Ignition temperature no data available  
Lower explosion limit no data available  
Upper explosion limit no data available  
Water solubility no data available  
Vapour density 7.26  
- (Air = 1.0)

**10. STABILITY AND REACTIVITY****Storage stability**

Stable under recommended storage conditions.

**Materials to avoid**

Oxidizing agents, Bases, Reducing agents, Nitrates

**Hazardous decomposition products**

**Hazardous decomposition products formed under fire conditions.**  
Carbon oxides

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Intraperitoneal - rat - 375 mg/kg

**Irritation and corrosion**

no data available

**Sensitisation**

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

**Chronic exposure**

no data available

**Signs and Symptoms of Exposure**

Vomiting, Diarrhoea, Damage to tooth enamel., Dermatitis

**Potential Health Effects**

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.

**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

no data available

**Ecotoxicity effects**

no data available

**Further information on ecology**

no data available

**13. DISPOSAL CONSIDERATIONS****Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION****DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

**15. REGULATORY INFORMATION****OSHA Hazards**

Severe eye irritant, Irritant

**TSCA Status**

On TSCA Inventory

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard

**Massachusetts Right To Know Components**

No Components Listed

**Pennsylvania Right To Know Components**

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**New Jersey Right To Know Components**

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**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

**16. OTHER INFORMATION****Further information**

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