



Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name	Citric Acid 10% w/v	Product Code	VW3949
Manufacturer	EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.	Effective Date	8/25/2005
		Print Date	10/5/2005

For More Information Call

856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call

800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym None.

Material Uses Laboratory Reagent

Chemical Family Organic Acid Solution

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
Citric Acid, Monohydrate, Powder	5949-29-1	9-10
Water	7732-18-5	90-91

Section 3. Hazards Identification

Physical State and Appearance Liquid.

Emergency Overview CAUTION !
CAUSES EYE IRRITATION.
MAY BE HARMFUL IF SWALLOWED.
MAY CAUSE SKIN IRRITATION.

Routes of Entry Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

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

Skin May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Non-permeator by skin.

Inhalation No known acute effects of this product resulting from inhalation.

Ingestion May be hazardous in case of ingestion.

Potential Chronic Health Effects

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

Medical Conditions

Aggravated by

Overexposure:

Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Section 4. First Aid Measures

Eye Contact

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, 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 tight clothing such as a collar, tie, belt or waistband.

Section 5. Fire Fighting Measures

Flammability of the Product

May be combustible at high temperature.

Auto-ignition Temperature

Not available.

Flash Points

Not available.

Flammable Limits

Not available.

Products of Combustion

Not applicable.

Fire Hazards in Presence of Various Substances

Not available.

Explosion Hazards in Presence of Various Substances

Risks of explosion of the product in presence of static discharge: No.

Risks of explosion of the product in presence of mechanical impact: No.

Fire Fighting Media and Instructions

SMALL FIRE: Use DRY chemical powder.

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

Protective Clothing (Fire)

Be sure to use an approved/certified respirator or equivalent.

Special Remarks on Fire Hazards

Not available.

Special Remarks on Explosion Hazards

Not available.

Section 6. Accidental Release Measures

Small Spill and Leak

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill and Leak

Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

Spill Kit Information

No specific spill kit required for this product.

Section 7. Handling and Storage

Handling Do not ingest. Avoid breathing vapors or spray mists. Avoid contact with skin and clothing. Do not get in eyes. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

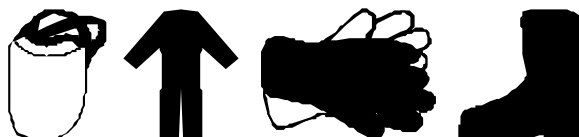
Eyes Face shield.

Body Full suit.

Respiratory Wear appropriate respirator when ventilation is inadequate.

Hands Gloves.

Feet Boots.

**Protective Clothing
(Pictograms)**

Personal Protection in Case of a Large Spill Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name

Citric Acid, Monohydrate, Powder
Water

Exposure Limits

Not available.
Not available.

Section 9. Physical and Chemical Properties

Odor Odorless.

Color Clear. Colorless.

Physical State and Appearance Liquid.

Molecular Weight Not applicable.

Molecular Formula Not applicable.

pH Not available.

Boiling/Condensation Point The lowest known value is 99.9°C (211.8°F) (Water).

Melting/Freezing Point May start to solidify at -0.1°C (31.8°F) based on data for: Water.

Specific Gravity Not available.

Vapor Pressure Not available.

Vapor Density Not available.

Odor Threshold	Not available.
Evaporation Rate	0.36 (Water) compared to(n-Butyl Acetate =1)
LogK_{ow}	Not available.
Solubility	Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Highly reactive with acids, alkalis.
Rem/Incompatibility	Avoid alkali carbonates
Hazardous Decomposition Products	COx
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

RTECS Number:	Citric Acid, Monohydrate Water	GE7810000 ZC0110000
Toxicity	LD ₅₀ : Not available. LC ₅₀ : Not available.	
Chronic Effects on Humans	Not available.	
Acute Effects on Humans	Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Non-permeator by skin. May be hazardous in case of ingestion.	
Synergetic Products (Toxicologically)	Not available.	
Irritancy	<u>Draize Test</u> : Not available.	
Sensitization	Not available.	
Carcinogenic Effects	This material is not known to cause cancer in animals or humans.	
Toxicity to Reproductive System	Not available.	
Teratogenic Effects	Not available.	
Mutagenic Effects	Not available.	

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.

Section 13. Disposal Considerations

EPA Waste Number Not available.

Treatment Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished.

Section 14. Transport Information

DOT Classification Proper Shipping Name: CHEMICALS, N.O.S.
RQ: Not applicable.

TDG Classification Not available.

IMO/IMDG Classification Proper Shipping Name: CHEMICALS, N.O.S.
RQ: Not applicable.

ICAO/IATA Classification Not available.

Section 15. Regulatory Information

U.S. Federal Regulations TSCA 8(b) inventory: Citric Acid, Monohydrate, Powder; Water
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Citric Acid, Monohydrate, Powder
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Citric Acid, Monohydrate, Powder: Immediate (Acute) Health Hazard
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada) Class D-2A: Material causing other toxic effects (VERY TOXIC).

CEPA DSL: Water

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS Citric Acid, Monohydrate, Powder Not available.
Water 231-791-2

DSCL (EEC) R36- Irritating to eyes.

International Lists Australia (NICNAS): Citric Acid, Monohydrate, Powder; Water

Japan (MITI): Water

Korea (TCCL): Water

Philippines (RA6969): Citric Acid, Monohydrate, Powder; Water
China: No products were found.

State Regulations

New Jersey: Citric Acid 10% w/v
California prop. 65: No products were found.

Section 16. Other Information

National Fire
Protection
Association
(U.S.A.)



Changed Since Last
Revision



Notice to Reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

Citric Acid 10% w/v

VW3949

Page: 6/6

Continued on Next Page