



Issuing Date 8/3/2010

Revision Number 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Mo Titrant
Product Code(s) 3999
Recommended Use Laboratory chemicals. Industrial (not for food or food contact use). Test kit reagent.
Company LaMotte Company, Inc.
802 Washington Avenue
P.O. Box 329
Chestertown, MD 21620
USA
Emergency Telephone Number 24 Hour Emergency Number (CHEM-TEL):
USA, Canada, Puerto Rico 1-800-255-3924
Outside North American Continent (Call collect) 813-248-0585

2. HAZARDS IDENTIFICATION

Emergency Overview

May cause skin and eye irritation

Appearance Clear, colorless solution

Physical State Liquid

Odor Odorless

OSHA Regulatory Status Safety information is given for exposure to the reagent as sold and considers exposure to the chemical if user has direct eye and skin contact.
Potential Health Effects
Principle Routes of Exposure Skin contact
Acute Toxicity
Eyes May cause irritation.
Skin May cause irritation.
Inhalation Not an expected route of exposure.
Ingestion No known significant effects or critical hazards..
Chronic Effects No known effect based on information supplied.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Citric acid monohydrate	5949-29-1	<1
Water	7732-18-5	to 100

4. FIRST AID MEASURES

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.
Skin Contact Wash skin with soap and water. If irritation develops or persists, consult physician.

Inhalation	Not expected.
Ingestion	Drink 1 or 2 glasses of water. If gastrointestinal distress occurs contact physician.
Protection of First-aiders	Use personal protective equipment. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not a fire hazard.
Suitable Extinguishing Media	Water spray, dry chemical, carbon dioxide (CO ₂), or foam.

Explosion Data

NFPA	Health Hazard 0	Flammability 0	Stability 0	Physical and Chemical Hazards -
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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Avoid contact with the skin and the eyes.
Methods for Cleaning Up	Cover spill with alkaline material (sodium bicarbonate) to neutralize, then containerize slurry, and hold for later disposal. If local regulations permit, dilute slurry with water and rinse to drain with excess water.. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling	Handle in accordance with good industrial hygiene and safety practice. Do not ingest. Do not eat, drink or smoke when using this product.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Citric acid monohydrate 5949-29-1	None Known	None Known	None Known
Water 7732-18-5	None Known	None Known	None Known

Personal Protective Equipment

Eye/Face Protection	Safety glasses with side-shields.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless solution	Odor	Odorless
Physical State	Liquid	pH	3
Boiling Point/Range	100 °C		

Vapor Pressure <17 mmHg @ 20°C Vapor Density <1(Air = 1)

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Incompatible Products Not applicable.

Conditions to Avoid None known.

Hazardous Decomposition Products None under normal use.

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Citric acid monohydrate	3000 mg/kg (Rat)	None Known	None Known
Water	90 mL/kg (Rat)	None Known	None Known

Chronic Toxicity

Chronic Toxicity No known effect based on information supplied.

Chemical Name	ACGIH	IARC	NTP	OSHA
Citric acid monohydrate	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Citric acid monohydrate	None Known	None Known	None Known
Water	None Known	None Known	None Known

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Citric acid monohydrate	None Known	LC50= 1516 mg/L <i>Lepomis macrochirus</i> 96 h LC50= 440 mg/L <i>Leuciscus idus</i> 96 h	None Known	None Known
Water	None Known	None Known	None Known	None Known

Chemical Name	Log Pow
Citric acid monohydrate	None Known
Water	None Known

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose according to federal, state, and local regulations. If permitted, neutralize reagent with sodium bicarbonate/sodium carbonate, add slurry to large volume of water to dilute, rinse to drain with excess water. .

Chemical Name
Citric acid monohydrate - 5949-29-1
Water - 7732-18-5

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Citric acid monohydrate - 5949-29-1	None Known	None Known	None Known	None Known
Water - 7732-18-5	None Known	None Known	None Known	None Known

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Citric acid monohydrate 5949-29-1 (<1)	TSCA	X	EINECS/ELINCS	ENCS	X	KECL	X	X
Water 7732-18-5 (to 100)	Present	X	X	ENCS	X	KE-35400	X	X

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Citric acid monohydrate	5949-29-1	<1	None Known
Water	7732-18-5	to 100	None Known

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Citric acid monohydrate 5949-29-1 (<1)	None Known	None Known	None Known	None Known
Water 7732-18-5 (to 100)	None Known	None Known	None Known	None Known

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Citric acid monohydrate	5949-29-1	<1	None Known	None Known	None Known	None Known
Water	7732-18-5	to 100	None Known	None Known	None Known	None Known

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Citric acid monohydrate	None Known	None Known
Water	None Known	None Known

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

Chemical Name	CAS-No	California Prop. 65
Citric acid monohydrate	5949-29-1	None Known
Water	7732-18-5	None Known

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Citric acid monohydrate	None Known	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known	None Known

International Regulations**Mexico - Grade**

No information available.

Chemical Name	Carcinogen Status	Exposure Limits
Citric acid monohydrate	None Known	None Known
Water	None Known	None Known



Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

Non-controlled

16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol						
	<table border="1"> <tbody> <tr> <td>Health Hazard</td> <td>0</td> </tr> <tr> <td>Fire Hazard</td> <td>0</td> </tr> <tr> <td>Reactivity</td> <td>0</td> </tr> </tbody> </table>	Health Hazard	0	Fire Hazard	0	Reactivity	0		
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Fire Hazard	0								
Reactivity	0								

Prepared By

Regulatory Affairs Department

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Revision Date

Revision Note Initial Release.

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS