

## MATERIAL SAFETY DATA SHEET

Date Printed: 02/06/2009  
Date Updated: 01/29/2006  
Version 1.3

## Section 1 - Product and Company Information

Product Name DL-CITRAMALIC ACID - 1G  
 Product Number S415375  
 Brand ALDRICH

Company Sigma-Aldrich Canada, Ltd  
 Address 2149 Winston Park Drive  
 Oakville ON L6H 6J8 CA

Technical Phone: 9058299500  
 Fax: 9058299292  
 Emergency Phone: 800-424-9300

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
(+/-)-CITRAMALIC ACID DIPOTASSIUM SALT	2306-22-1	No

Formula C5H6K2O5·H2O

## Section 3 - Hazards Identification

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

## Section 5 - Fire Fighting Measures

FLASH POINT  
N/AAUTOIGNITION TEMP  
N/AFLAMMABILITY  
N/A

## EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

## Section 6 - Accidental Release Measures

## METHODS FOR CLEANING UP

Place in appropriate container. Wash spill site with soap solution. Flush spill area with copious amounts of water.

## Section 7 - Handling and Storage

## Section 8 - Exposure Controls / PPE

## PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.  
Eye: Chemical safety goggles.

## Section 9 - Physical/Chemical Properties

Property	Value	At Temperature or Pressure
Appearance	Color: White Form: Fine crystals	
Molecular Weight	242.3 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

## Section 10 - Stability and Reactivity

## HAZARDOUS EXOTHERMIC REACTIONS

Hazardous Exothermic Reactions: Will not occur

## Section 11 - Toxicological Information

## SIGNS AND SYMPTOMS OF EXPOSURE

In case of fire, development of irritant decomposition products

## Section 12 - Ecological Information

No data available.

ALDRICH - S415375

www.sigma-aldrich.com

Page 2

## Section 13 - Disposal Considerations

## APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

## Section 14 - Transport Information

## DOT

Proper Shipping Name: None  
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

## IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

## Section 15 - Regulatory Information

## EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xi  
Indication of Danger: Irritant.  
R: 36/37/38  
Risk Statements: Irritating to eyes, respiratory system and skin.  
S: 26-36  
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

## US CLASSIFICATION AND LABEL TEXT

Safety Statements: Safety phrases:

## UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

## CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: No  
NDSL: No

## Section 16 - Other Information

## DISCLAIMER

For R&amp;D use only. Not for drug, household or other uses.

## WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from invoice or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.  
Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

ALDRICH - S415375

www.sigma-aldrich.com

Page 3