



SAFETY DATA SHEET

SDS00386
CITRIC ACID 50% SOLUTION

Preparation Date: 12/Jan/2018

Version: 4

1. IDENTIFICATION

Product identifier

Product Name CITRIC ACID 50% SOLUTION

Other means of identification

Product Code(s) SDS00386

Synonyms 2-Hydroxy-1,2,3 Propanetricarboxylic Acid

Recommended use of the chemical and restrictions on use

Recommended Use Water treatment.

Restricted Uses No information available

Initial Supplier Identifier

Univar Canada Ltd.
9800 Van Horne Way
Richmond, BC V6X 1W5
Telephone: 1-866-686-4827

Emergency telephone number

24 Hour Emergency Phone Number (CANUTEC): 1-888-226-8832 (1-888-CAN-UTEC)

2. HAZARD IDENTIFICATION

Hazardous Classification of the substance or mixture

Skin corrosion/irritation	Category 1
Sub-category A	
Serious eye damage/eye irritation	Category 1

Label elements



Signal Word: Danger

Hazard statements

Causes severe skin burns and eye damage

Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Wash hands and face thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Response

Read the label and safety data sheet before use.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing

If eye irritation persists: Get medical advice/attention

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Immediately call a POISON CENTER or doctor

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Storage

Store in a well-ventilated place. Keep cool

Store in a closed container

Disposal

Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations

Unknown acute toxicity

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	CAS No	Weight-%	Synonyms
Citric acid	77-92-9	50 - 60%	Citric acid

4. FIRST AID

Description of first aid measures

Inhalation

Remove to fresh air.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed:

If large amounts of the product are ingested, symptoms may include gastrointestinal irritation, nausea, vomiting and diarrhea. Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis). May cause irritation with redness, pain, possible eye burns, conjunctivitis, ulceration and permanent cloudiness. May cause mucous membrane irritation with sore throat, coughing and shortness of breath. Causes irritation with discomfort, local redness, and possible swelling.

Indication of any immediate medical attention and special treatment needed:**Note to physicians**

Treatment based on sound judgment of physician and individual reactions of patient.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards arising from the substance or mixture

Will not burn or support combustion.

Hazardous combustion products

Oxides of carbon.

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment as required. Avoid contact with skin and eyes.

Environmental precautions

Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up

Flush area with water to remove trace residue. Observe government regulations.

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Empty containers may contain hazardous

product residues. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. Keep containers tightly closed. Avoid storage with incompatible materials. Keep at temperatures between 10 and 60 °C. Store in accordance with good industrial practices.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	Alberta OEL	British Columbia OEL	Ontario	Quebec OEL	Exposure Limit - ACGIH	Immediately Dangerous to Life or Health - IDLH
Citric acid 77-92-9	Not available	Not available	Not available	Not available	Not available	Not available

Consult local authorities for recommended exposure limits

Appropriate engineering controls

Engineering controls

Use local exhaust or general room/dilution ventilation sufficient to maintain employee exposure below permissible exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection

Safety glasses with side shields or chemical goggles.

Hand protection

Appropriate chemical resistant gloves should be worn. Rubber gloves. Vinyl gloves.

Skin and body protection

Wear chemical resistant pants and jackets, preferably butyl or nitrile rubber. Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Respiratory protection

Not required for normal conditions of use. If exposure to vapor or mist can occur the use of an air purifying respirator with organic vapor cartridge is required.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Physical state	Liquid
Color	White - Off white
Odor	Odorless

Odor threshold	No information available	
PROPERTIES	Values	Remarks • Method
pH	2.2 (1%), 1.8 (5%), 1.7 (10%), 0.8 (50%)	
Melting point / freezing point	No data available	
Initial boiling point/boiling range	104 °C / 219 °F	
Flash point	No data available	None known
Evaporation rate	No data available	
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	16 mmHg @ 68°F	None known
Relative vapor density	0.62	None known
Specific Gravity	1.24 @ 15°C	
Water solubility	Soluble in water Soluble in methanol.	
Solubility in other solvents	No data available	
Partition coefficient	No data available	
Autoignition temperature	No data available	
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available.	
Oxidizing properties	No information available.	
Molecular weight	No information available	
VOC Percentage Volatility	No information available	
Liquid Density	No information available	
Bulk density	No information available	

10. STABILITY AND REACTIVITY

Reactivity/Chemical Stability

Stable under normal conditions

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Avoid excessive heat, open flames and all ignition sources.

Incompatible materials

Strong oxidizers. Strong acids.

Hazardous decomposition products

Oxides of carbon.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation

May cause mucous membrane irritation with sore throat, coughing and shortness of breath.

Eye contact

May cause irritation with redness, pain, possible eye burns, conjunctivitis, ulceration and permanent cloudiness.

Skin contact

Causes irritation with discomfort, local redness, and possible swelling. Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).

Ingestion

If large amounts of the product are ingested, symptoms may include gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects**Symptoms**

Pre-existing eye and skin disorders may be aggravated by exposure to this product. Long term oral overexposure may cause damage to tooth enamel.

Numerical measures of toxicity**Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 3,000.00 mg/kg

Unknown acute toxicity No information available

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Citric acid 77-92-9	= 3 g/kg (Rat)	Not available	Not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis). Causes irritation with discomfort, local redness, and possible swelling.

Serious eye damage/eye irritation

May cause irritation with redness, pain, possible eye burns, conjunctivitis, ulceration and permanent cloudiness.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Citric acid 77-92-9	Not available	Not available	Not available	Not available

Reproductive toxicity

No information available.

Specific target organ systemic toxicity - single exposure

No information available.

Specific target organ systemic toxicity - repeated exposure

No information available.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Ecotoxicity - Freshwater Algae Data	Ecotoxicity - Fish Species Data	Toxicity to microorganisms	Crustacea
Citric acid 77-92-9	Not available	1516 mg/L LC50 (Lepomis macrochirus) 96 h static	Not available	Not available

Persistence and degradability No information available.

Bioaccumulation No information available.

Component Information

Chemical Name	Partition coefficient
Citric acid 77-92-9	-1.72

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Do not reuse empty containers.

14. TRANSPORT INFORMATION

TDG (Canada):

UN Number	UN3265
Shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (CITRIC ACID)
Class	8
Packing Group	III
Marine pollutant	No.

DOT (U.S.)

UN Number	UN3265
Shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (CITRIC ACID)
Class	8
Packing Group	III
Marine pollutant	No

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

NSF International

**Additional information**

Maximum use for potable water 100 mg/L. (pH Adjustment) Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

U.S. Regulatory Rules

Chemical Name	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Citric acid - 77-92-9	Not Listed	Not Listed	Not Listed

International Inventories

TSCA	Complies
DSL/NDSL	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<u>NFPA:</u>	Health hazards 0	Flammability 0	Instability 0	Physical and chemical properties -
<u>HMIS Health Rating:</u>	Health hazards 1	Flammability 0	Physical hazards 0	Personal protection X

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Prepared By: The Environment, Health and Safety Department of Univar Canada Ltd.

Preparation Date: 12/Jan/2018

Revision Date: 12/Jan/2018

Disclaimer**NOTICE TO READER:**

Univar expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this SDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Univar Sales Office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Univar makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar's control and therefore users are responsible to

verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

©2015 Univar Inc. All rights reserved. Univar, the hexagon, the Univar logo and MasterLine are the registered trademarks of Univar Inc.

End of Safety Data Sheet