

SAFETY DATA SHEET

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Preparation Date: 01/01/2019

Revision Date: N/A

Revision Number: N/A

1. IDENTIFICATION

Product identifier			
Product code: Product Name:	C2995 CITRIC ACID, ANHYDROUS, POWDER, REAGENT, ACS		
Other means of identification			
Synonyms: CAS #: RTECS # CI#:	2-Hydroxy-1,2,3-propanetricarboxylic acid 77-92-9 GE7350000 Not available		
Recommended use of the chemical and restrictions on use			
Recommended use: Uses advised against	No information available. No information available		
Supplier:	Dawn Scientific Inc 121 Liberty Street, Metuchen, NJ, 08840 Tel : 732-902-6300 Fax : 973-802-1005 sales@dawnscientific.com www.dawnscientific.com		
Emergency telephone number	Chemtrec 1-800-424-9300		

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

Label elements

Warning

Hazard statements Causes serious eye irritation May cause respiratory irritation



Hazards not otherwise classified (HNOC) Not Applicable

Other hazards

May be harmful if swallowed Causes mild skin irritation

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling Wear eye/face protection Avoid breathing dust/fume/gas/mist/vapors/spray Use only outdoors or in a well-ventilated area

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 skin irritation occurs: Get medical advice/attention

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Citric Acid, Anhydrous	77-92-9	100

4. FIRST AID MEASURES

General Advice:	National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
Skin Contact:	Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.
Eye Contact:	Flush eyes with water for 15 minutes. Get medical attention.
Inhalation:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

-	
Symptoms	Causes eye irritation
	Mild skin irritation
	May cause irritation of respiratory tract
	Central nervous system effects
	May affect the cardiovascular system
	May affect respiration

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

<u>Protection of first-aiders</u> First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media Suitable Extinguishing Media:	Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.
Unsuitable Extinguishing Media:	No information available.
Specific hazards arising from the chemical	
Hazardous Combustion Products:	Carbon oxides
Hazardous Combustion Products:	No information available.
Specific hazards:	May be combustible at high temperatures. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Special Protective Actions for Firefighters	
Specific Methods:	No information available.
Special Protective Equipment for Firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:	Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.
Methods and material for contain	inment and cleaning up
Methods for containment	Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.
Methods for cleaning up	Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Avoid dust formation. Do not ingest. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents Reducing agents Bases Bicarbonates Acetates Sulfides Potassium Tartrate metal nitrates Metals Aluminum Copper Copper alloys Zinc zinc alloys aluminum alloys Alkaline earth carbonates alkali earth carbonates

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Citric Acid, Anhydrous	77-92-9	None	None	None	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Citric Acid, Anhydrous	77-92-9	None	None	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Citric Acid, Anhydrous	77-92-9	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:	Goggles or Safety glasses with side-shields
Skin and body protection:	Long sleeved clothing Chemical resistant apron Gloves
Respiratory protection:	Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds), inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.
Hygiene measures:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Appearance:	Color:
Solid	Powder. Granular.	Colorless. White.
Odor:	Taste	Formula:
Odorless.	Acid. Strong.	C6H8O7

Molecular/Formula weight (g/mole): Flammability: 192.13

Flash Point Tested according to: Not available

Upper Explosion Limit (%): 2.29 kg/m³ (poussière)

Boiling point/range(°C/°F): se dégrade

Specific gravity: 1.665

Evaporation rate: No information available

Odor threshold (ppm): No information available

Miscibility: No information available No information available

Autoignition Temperature (°C/°F): 1010°C/1850°F (poudre)

Melting point/range(°C/°F): 153.0°C/307.4°F

Bulk density: No information available

pH: No information available

Vapor density: No information available

Partition coefficient (n-octanol/water): -1.64

Solubility: Soluble in Water Solubility in water: 54.0% w/w at 10 deg C; 59.2% at 20 deg C; 64.3% at 30 deg C; 68.6% at 40 deg C; 70.9% at 50 deg C; 73.5% at 60 deg C; 76.2% at 70 deg C; 78.8% at 80 deg C; 81.4% at 90 deg C; 84.0% at 100 deg C., 3.83X10+5 mg/L at 25 deg C. Very soluble in Ethanol Soluble in Ether Soluble in ethyl acetate Insoluble in Benzene Insoluble in Chloroform

Flashpoint (°C/°F): No information available.

Lower Explosion Limit (%): 0.28 kg/m³ (poussière)

Decomposition temperature(°C/°F): No information available

Density (g/cm3): No information available

Vapor pressure @ 20°C (kPa): No information available

VOC content (g/L): No information available

Viscosity: No information available

10. STABILITY AND REACTIVITY

Reactivity Reacts with strong bases Reactive with oxidizing agents Reacts with reducing agents Potentially explosive reaction with metal nitrates

Chemical stability		
Stability:	Stable under recommended storage conditions.	
Possibility of Hazardous Reactions	- Hazardous polymerization does not occur	
Conditions to avoid:	Heat. Ignition sources. Incompatible materials. Avoid dust formation. Dust may form explosive mixture in air. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.	
Incompatible Materials:	Oxidizing agents Reducing agents Bases	

	Bicarbonates Acetates Sulfides Potassium Tartrate metal nitrates Metals Aluminum Copper Copper alloys Zinc zinc alloys aluminum alloys Alkaline earth carbonates alkali earth carbonates
Hazardous decomposition products:	Carbon oxides.
<u>Other Information</u> Corrosivity:	Corrosive in presence of aluminum, zinc, copper and their alloys

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure: Ingestion. Inhalation.

Acute Toxicity

Component Information

Citric Acid, Anhydrous	
CAS-No.	77-92-9
LD50/oral/rat = = 3 g/kg Oral	I LD50 Rat = 3000 mg/kg Oral LD50 Rat
LD50/oral/mouse = 5040 mg	μ/kg Oral LD50 Mouse
LD50/dermal/rabbit = No info	ormation available
LD50/dermal/rat = No inform	ation available
LC50/inhalation/rat = No info	ormation available
LC50/inhalation/mouse = No	o information available
Other LD50 or LC50informat	tion = 903 mg/kg, intraperitoneal, mouse;
290 mg/kg, intraperitoneal, rat	, ,
42 mg/kg, intravenous, mouse	3;
330 mg/kg, intravenous, rabbit	t;
2700 mg/kg, subcutaneous, m	iouse;
5500 mg/kg, subcutaneous, ra	at

Product Information

LD50/oral/rat = VALUE- Acute Tox Oral = 3000 mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 5040 mg/kg				
LD50/dermal/rabbit VALUE-Acute Tox Dermal = No information available				
LD50/dermal/rat VALUE -Acute Tox Dermal = N	o information available			
LC50/inhalation/rat VALUE-Vapor = No information VALUE-Gas = No information av VALUE-Dust/Mist = No information	vailable			
LC50/Inhalation/mouse VALUE-Vapor = No information VALUE - Gas = No information a VALUE - Dust/Mist = No information	available			
<u>Symptoms</u>				
Skin Contact:	Mild skin irritation.			
Eye Contact:	Causes serious eye irritation. Highly irritating.			
Inhalation	Irritating to respiratory system. Symptoms may including coughing.			
Ingestion	Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, and diarrhea. May affect behavior/central nervous system (convulsions, somnolence), and respiration. May affect behavior/central nervous system (ataxia). May affect behavior/central nervous system (ataxia). May affect behavior/central nervous system (tremor, convulsions). May affect respiration (respiratory depression). May affect the cardiovascular system (change in heart rate). May affect the cardiovascular system (hypotension). May cause metabolic acidosis. May cause hypocalcemia. May cause lactic acidosis. May cause hyperkalemia.			
Aspiration hazard	No information available.			
Delayed and immediate effects as well as chronic effects from short and long-term exposure				
Chronic Toxicity	Frequent intake of citrated beverages may cause erosion of dental enamel and irritation of the mucous membrane lining of the mouth (oral mucosa).			
Sensitization:	No information available.			
Mutagenic Effects:	No information available			
Carcinogenic effects:	Not considered carcinogenic.			

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Citric Acid, Anhydrous	77-92-9	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
ACGIH (American Confe	rence of Govern	mental Industria	l Hygienists)	<u></u>		^	

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity	No data is available
Reproductive Effects: Developmental Effects: Teratogenic Effects:	No information available No information available No information available
Specific Target Organ Toxicity	
STOT - single exposure	Respiratory system

STOT - single exposure	Respiratory system.
STOT - repeated exposure	No information available.
Target Organs:	Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity	
Ecotoxicity effects:	Aquatic environment.
<i>Citric Acid, Anhydrous - 77-92-9</i> Freshwater Fish Species Data: Water Flea Data:	1516 mg/L LC50 Lepomis macrochirus 96 h static 1 120 mg/L EC50 Daphnia magna 72 h
Persistence and degradability:	No information available
Bioaccumulative potential:	No information available.
Mobility:	No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Citric Acid, Anhydrous	77-92-9	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class:	No information available
Subsidiary Class	No information available
Packing group:	No information available
Emergency Response Guide	No information available
Number	
Marine Pollutant	No data available

DOT RQ (lbs): Special Provisions Symbol(s): Description:

TDG (Canada)

UN-No: Proper Shipping Name: Hazard Class: Subsidiary Risk: Packing Group: Marine Pollutant Description:

ADR

UN-No: Proper Shipping Name: Hazard Class: Packing Group: Subsidiary Risk:

IMO / IMDG

UN-No: Proper Shipping Name: Hazard Class: Subsidiary Risk: Packing Group: Marine Pollutant

RID

UN-No:
Proper Shipping Name:
Hazard Class:
Subsidiary Risk:
Packing Group:

ICAO

UN-No:	Not Re
Proper Shipping Name:	No info
Hazard Class:	No info
Subsidiary Risk:	No info
Packing Group:	No info

IATA

UN-No: Proper Shipping Name: Hazard Class: Subsidiary Risk: Packing Group: ERG Code: Special Provisions No information available No Information available No information available No information available

Not Regulated No information available No information available

Not Regulated No information available No information available No information available No information available

Not Regulated No information available No information available No information available No information available No information available

Not Regulated No information available No information available No information available No information available

Not Regulated No information available No information available No information available No information available

Not Regulated No information available No information available

15. REGULATORY INFORMATION

International Inventories

		Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines	Japan ENCS	CHINA	Australia	EINECS-No.
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				(PICCS)			(AICS)	
Citric Acid, Anhydrous	77-92-9	PresentACTIV	Present	Present	Present	Present[25349	Present	Present
		E	KE-20831		(2)-1318]		201-069-1

U.S. Regulations

Citric Acid, Anhydrous

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1033

FDA - 21 CFR - Total Food Additives 131.111, 131.112, 133.123, 133.124, 133.129, 133.169, 133.173, 133.178, 133.179, 145.134, 145.145, 146.187, 150.141, 150.161, 155.130, 161.190, 163.11, 163.110, 163.112, 169.115, 169.140, 169.150, 172.755, 172.861, 173.160, 173.165, 173.280, 178.1010, 184.1033, 73.85

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity		Female Reproductive
				Toxicity	Toxicity:
Citric Acid, Anhydrous	77-92-9	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Citric Acid, Anhydrous	77-92-9	None	None	None	None	None

U.S. TSCA

Components		TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	()
Citric Acid, Anhydrous	77-92-9	Not Applicable	Not Applicable

Canada

WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component Citric Acid, Anhydrous 77-92-9 (100) WHMIS 2015 Hazard Classification Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Combustible Dust - Category 1: May form combustible dust concentrations in air (factors such as combustibility and explosiveness of dusts including composition and shape and size of particles could cause substance to belong to 'Combustible dust' hazard class)

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHMIS 1988 Hazard Class

E Corrosive material

Components

Citric Acid, Anhydrous

WHMIS 1988 E including 40%

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Citric Acid, Anhydrous	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Citric Acid, Anhydrous	77-92-9	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Citric Acid, Anhydrous	77-92-9	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject
		to Mandatory Reporting
Citric Acid, Anhydrous	77-92-9	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Citric Acid, Anhydrous	77-92-9	No information

EU - CLP (1272/2008)

R-phrase(s)

R36 - Irritating to eyes.

R37 - Irritating to respiratory system.

R38 - Irritating to skin.

<u>S -phrase(s)</u> S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37 - Wear suitable gloves.

S39 - Wear eye/face protection.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Citric Acid, Anhydrous	77-92-9		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xi - Irritant.



16. OTHER INFORMATION

Preparation Date:	01/01/2019
Revision Date:	N/A
Prepared by:	-
Disclaimer:	All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Dawn Scientific Inc Chemicals & Laboratory Products, assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Dawn Scientific Incassumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet