



## SAFETY DATA SHEET

Preparation Date: 02/05/2015

Revision Date: 07/16/2018

Revision Number: G2

### 1. IDENTIFICATION

#### Product identifier

**Product code:** CI133  
**Product Name:** ANHYDROUS CITRIC ACID, GRANULAR, USP

#### Other means of identification

**Synonyms:** 2-Hydroxy-1,2,3-propanetricarboxylic acid  
**CAS #:** 77-92-9  
**RTECS #** GE7350000  
**CI#:** Not available

#### Recommended use of the chemical and restrictions on use

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 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****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**

<b>Symptoms</b>	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.

**Protection of first-aiders**

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 (CO<sub>2</sub>). 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 containment 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

**Product code:** CI133

**Product name:** ANHYDROUS CITRIC  
ACID, GRANULAR, USP

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## 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

<b>Eye protection:</b>	Goggles or Safety glasses with side-shields.
<b>Skin and body protection:</b>	Long sleeved clothing Chemical resistant apron Gloves
<b>Respiratory protection:</b>	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.
<b>Hygiene measures:</b>	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

<b>Physical state:</b> Solid	<b>Appearance:</b> Powder. Granular.	<b>Color:</b> Colorless. White.
<b>Odor:</b> Odorless.	<b>Taste</b> Acid. Strong.	<b>Formula:</b> C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>
<b>Molecular/Formula weight (g/mole):</b> 192.13	<b>Flammability:</b> No information available	<b>Flashpoint (°C/°F):</b> No information available.

<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> 1010°C/1850°F (poudre)	<b>Lower Explosion Limit (%):</b> 0.28 kg/m <sup>3</sup> (poussière)
<b>Upper Explosion Limit (%):</b> 2.29 kg/m <sup>3</sup> (poussière)	<b>Melting point/range(°C/°F):</b> 153.0°C/307.4°F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> se dégrade	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Specific gravity:</b> 1.665	<b>pH:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> -1.64	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> 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	

## 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.

**Other Information**

**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 LD50 Rat = 3000 mg/kg Oral LD50 Rat

**LD50/oral/mouse** = 5040 mg/kg Oral LD50 Mouse

**LD50/dermal/rabbit** = No information available

**LD50/dermal/rat** = No information available

**LC50/inhalation/rat** = No information available

**LC50/inhalation/mouse** = No information available

**Other LD50 or LC50 information** = 903 mg/kg, intraperitoneal, mouse;

290 mg/kg, intraperitoneal, rat;

42 mg/kg, intravenous, mouse;

330 mg/kg, intravenous, rabbit;

2700 mg/kg, subcutaneous, mouse;

5500 mg/kg, subcutaneous, rat

**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

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**LD50/dermal/rat****VALUE -Acute Tox Dermal =** No information available**LC50/inhalation/rat****VALUE-Vapor =** No information available**VALUE-Gas =** No information available**VALUE-Dust/Mist =** No information available**LC50/Inhalation/mouse****VALUE-Vapor =** No information available**VALUE - Gas =** No information available**VALUE - Dust/Mist =** No information available**Symptoms****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 (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 Conference of Governmental Industrial Hygienists)**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: No information available  
 Developmental Effects: No information available  
 Teratogenic Effects: No information available

#### Specific Target Organ Toxicity

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

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Ecotoxicity effects: Aquatic environment.

*Citric Acid, Anhydrous - 77-92-9*

Freshwater Fish Species Data: 1516 mg/L LC50 *Lepomis macrochirus* 96 h static 1

Water Flea Data: 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 Number: No information available  
 Marine Pollutant: No data available  
 DOT RQ (lbs): No information available  
 Special Provisions: No Information available  
 Symbol(s): No information available  
 Description: No information available

**TDG (Canada)**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant Description:** No information available

**ADR**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available

**IMO / IMDG**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant** No information available

**RID**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available

**ICAO**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available

**IATA**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**ERG Code:** No information available  
**Special Provisions** No information available

<b>15. REGULATORY INFORMATION</b>
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**International Inventories**

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

**U.S. Regulations****Product code:** CI133

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*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	Male Reproductive Toxicity	Female Reproductive 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	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Citric Acid, Anhydrous	77-92-9	Not Applicable	Not Applicable

**Canada**

**WHMIS 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

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

**Product code:** CI133

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

## EU Classification

### EU GHS - SV - CLP 1272/2008

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

### EU - CLP (1272/2008)

## R-phrases(s)

R36 - Irritating to eyes.

R37 - Irritating to respiratory system.

R38 - Irritating to skin.

## S -phrase(s)

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.

Xi



## 16. OTHER INFORMATION

Preparation Date: 02/05/2015  
Revision Date: 07/16/2018  
Prepared by: Sonia Owen

## 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. Spectrum Chemicals & Laboratory Products, Inc. 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

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**End of Safety Data Sheet**