

# Safety Data Sheet

## Citric Acid, Anhydrous

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1 Product Description

**Product Name:** Citric Acid, Anhydrous  
**Recommended Use:** Science education applications  
**Synonyms:** 2-Hydroxy-1,2,3-propanetricarboxylic Acid  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**WARNING**



Causes serious eye irritation.

**GHS Classification:**  
Serious Eye Damage/Eye Irritation Category 2A, Skin Corrosion/Irritation Category 3

### Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Citric Acid, Anhydrous	77-92-9	100

### Section 4 First Aid Measures

#### Emergency and First Aid Procedures

**Inhalation:** In case of accident by inhalation: remove casualty to fresh air and keep at rest.  
**Eyes:** 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.  
**Skin Contact:** After contact with skin, wash immediately with plenty of water.  
**Ingestion:** If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

### Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical, CO2 or appropriate foam.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.  
**Fire and/or Explosion Hazards:** Fire or excessive heat may produce hazardous decomposition products.  
**Hazardous Combustion Products:** Carbon dioxide, Carbon monoxide

### Section 6 Spill or Leak Procedures

**Steps to Take in Case Material Is Released or Spilled:** No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. Avoid the generation of dusts during clean-up.

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Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

## Section 7 Handling and Storage

**Handling:** Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.  
**Storage:** Keep container tightly closed in a cool, well-ventilated place.  
**Storage Code:** Green - general chemical storage

## Section 8 Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>		<u>OSHA PEL</u>	
	<u>(TWA)</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>(STEL)</u>
Citric Acid	N/A	N/A	N/A	N/A

### Control Parameters

**Engineering Measures:** No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

**Personal Protective Equipment (PPE):** Lab coat, apron, eye wash, safety shower.

**Respiratory Protection:** No respiratory protection required under normal conditions of use.

**Respirator Type(s):** NIOSH approved air purifying respirator with dust/mist filter.

**Eye Protection:** Wear chemical splash goggles when handling this product. Have an eye wash station available.

**Skin Protection:** Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

**Gloves:** Butyl rubber, Natural latex,, Neoprene, Nitrile, Polyvinyl chloride

## Section 9 Physical Data

<b>Formula:</b> C6H8O7	<b>Vapor Pressure:</b> 1.7x10 <sup>-8</sup> mm Hg @ 25 C (est)
<b>Molecular Weight:</b> 192.13	<b>Evaporation Rate (BuAc=1):</b> No data available
<b>Appearance:</b> Colorless to White Crystalline Solid	<b>Vapor Density (Air=1):</b> No data available
<b>Odor:</b> None	<b>Specific Gravity:</b> 1.665
<b>Odor Threshold:</b> No data available	<b>Solubility in Water:</b> Soluble
<b>pH:</b> 2.1, conc: 0.1 M (solution)	<b>Log Pow (calculated):</b> -1.72
<b>Melting Point:</b> 153 C	<b>Autoignition Temperature:</b> 1010 - 1011 C
<b>Boiling Point:</b> No data available	<b>Decomposition Temperature:</b> 175 C
<b>Flash Point:</b> No data available	<b>Viscosity:</b> No data available
<b>Flammable Limits in Air:</b> No data available	<b>Percent Volatile by Volume:</b> No data available

## Section 10 Reactivity Data

**Reactivity:** Not generally reactive under normal conditions.

**Chemical Stability:** Stable under normal conditions.

**Conditions to Avoid:** Exposure to moisture

**Incompatible Materials:** Strong oxidizing agents, Strong reducing agents, Metals, Metal Nitrates, Caustics (bases)

**Hazardous Decomposition Products:** Carbon oxides

**Hazardous Polymerization:** Will not occur

## Section 11 Toxicity Data

**Routes of Entry:** Inhalation and ingestion.

**Symptoms (Acute):** No data available, Hypotension, Hyperkalemia, Metabolic Acidosis

**Delayed Effects:** No data available

### Acute Toxicity:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Inhalation LC50</u>
Citric Acid, Anhydrous	77-92-9	Oral LD50 Rat 3000 mg/kg	Not determined	Not determined

# Safety Data Sheet

**Carcinogenicity:****Chemical Name**

Citric Acid, Anhydrous

**CAS Number**

77-92-9

**IARC**

Not listed

**NTP**

Not listed

**OSHA**

Not listed

**Chronic Effects:****Mutagenicity:**

No evidence of a mutagenic effect.

**Teratogenicity:**

No evidence of a teratogenic effect (birth defect).

**Sensitization:**

No evidence of a sensitization effect.

**Reproductive:**

No evidence of negative reproductive effects.

**Target Organ Effects:****Acute:**

See Section 2

**Chronic:**

Not listed as a carcinogen by IARC, NTP or OSHA.

## Section 12

## Ecological Data

**Overview:**

This material is not expected to be harmful to the ecology.

**Mobility:**

This material is expected to have very high mobility in soil. It does not absorb to most soil types.

**Persistence:**

Dissolved into water, Biodegradation

**Bioaccumulation:**

Bioconcentration is not expected to occur.

**Degradability:**

Biodegrades quickly.

**Other Adverse Effects:**

No data

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**Eco Toxicity**

96 HR LC50 LEPOMIS MACROCHIRUS 1516 MG/L [STATIC]

72 HR EC50 DAPHNIA MAGNA 120 MG/L

## Section 13

## Disposal Information

**Disposal Methods:**

Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

**Waste Disposal Code(s):**

Not Determined

## Section 14

## Transport Information

**Ground - DOT Proper Shipping Name:**

Not regulated for transport by US DOT.

**Air - IATA Proper Shipping Name:**

Not regulated for air transport by IATA.

## Section 15

## Regulatory Information

**TSCA Status:**

All components in this product are on the TSCA Inventory.

**Chemical Name**

Citric Acid, Anhydrous

**CAS  
Number**

77-92-9

**§ 313 Name**

No

**§ 304 RQ**

No

**CERCLA RQ**

No

**§ 302 TPQ**

No

**CAA 112(2)  
TQ**

No

## Section 16

## Additional Information

**Revised: 09/09/2015****Replaces: 04/01/2015****Printed: 10-29-2015**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

**Glossary**

# Safety Data Sheet

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health