



**PhytoTechnology
Laboratories®**

SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Citric Acid, Anhydrous
PRODUCT NUMBER: C277
COMPANY INFO: *PhytoTechnology Laboratories®*
PO Box 12205, Shawnee, KS 66282-2205
Phone: 1-888-749-8682 or 1-913-341-5343; Fax: 1-888-449-8682 or 1-913-341-5442
www.phytotechlab.com
EMERGENCY PHONE NUMBER: 1-800-535-5053 - US Only
1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by *PhytoTechnology Laboratories®* are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification:

H319 – Eye irritation (Category 2A)

GHS Label elements, including hazard and precautionary statements:

Pictogram:



Signal Word: **Warning**

Hazard Statements: H319 – Causes serious eye irritation.

Precautionary Statements:

P280 – Wear protective clothing/protective gloves/eye protection.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: 2-Hydroxy-1,2,3-propanetricarboxylic Acid

CAS No.: 77-92-9

Formula: C₆H₈O₇

Molecular Weight: 192.14 g/mol

EC No.: 201-069-1

Ingredient	CAS Number	Percent	Hazardous
Citric Acid, Anhydrous	77-92-9	>99 %	No exposure limits established by OSHA or ACGIH

4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention.
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention.
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists.

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.
Special Protective Equipment and Precaution for Firefighters:	In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.
Hazardous Combustion Products:	May emit toxic fumes under fire conditions.
Toxic Gases Produced:	Carbon dioxide and carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas.

Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Method of Containment and Cleanup:	Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let product enter drains.

7. HANDLING AND STORAGE

Precaution for Safe Handling:	Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Wash thoroughly after use.
Conditions for Safe Storage:	Keep in a tightly closed container and store in a cool, dry, and well-ventilated area.
Incompatibilities:	Strong oxidizing agents, metal nitrates, strong bases, metals
Recommended Storage Temperature:	Room Temperature

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Permissible Exposure Limits (PELs): No data available

Threshold Limit Values (TLVs):	No data available
Engineering Controls:	Handle in accordance to general industrial hygiene and safety practice.
Personal Protective Equipment (PPE):	
Eye/Face Protection:	Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.
Skin Protection:	Protective gloves
Body Protection:	Lab coat
Respiratory Protection:	Appropriate respirator

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to Off-White Powder	
pH (0.10 g/L):	Under Development (2.75 – 3.75 suspected range)	
Solubility:	Soluble in Water	
Melting Range:	153 °C; Decomposes around 175 °C	
Vapor Density:	No data available	
Vapor Pressure:	No data available	
Specific Gravity:	1.665 g/cm ³	
Odor:	Mostly odorless	
Odor Threshold:	No data available	
Viscosity:	No data available	
Relative Density:	No data available	
Evaporation Rate:	No data available	
Initial Boiling Point and Boiling Range:	No data available	
Flammability (solid, gas):	No data available	
Partition coefficient: n-octanol/water):	Log Pow: -1.64 at 20 °C (68 °F)	
Auto-ignition Temperature:	No data available	
Decomposition Temperature:	No data available	
Flash Point (Closed Cup):	No data available	
Flammable Limits:	Upper (%) – No data available	Lower (%) – 8%

10. STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions of use – combustible at high temperatures
Possibility of Hazard Reactions:	Will not occur
Conditions to Avoid:	Dust generation, excessive heat
Incompatibles Materials:	Strong oxidizing agents, metal nitrates, strong bases, metals
Hazardous Decomposition Products:	Carbon dioxide, carbon monoxide

11. TOXICOLOGICAL INFORMATION

Toxicity:	LD ₅₀ (Oral-Rat)(mg/Kg):	5400
	LD ₅₀ (IP-Rat)(mg/Kg):	290
	LD ₅₀ (Dermal-Rat)(mg/Kg):	>2000

Carcinogenicity:	NTP:	No
	IARC:	No
	Z List:	No
	OSHA Reg:	No
Reproductive Toxicity:	No data available	
Symptoms Associated with Overexposure:	Irritation, itching, gastrointestinal upset, allergic reaction, redness, blurred vision, salivation, breathing difficulties, cyanosis, muscle weakness or spasms, tooth erosion, severe eye damage, blindness	
Specific Target Organ Toxicity:	Single Exposure:	No data available
	Repeated Exposure:	No data available
Target Organs:	Eyes, skin, respiratory system	
Medical Conditions Aggravated By Exposure:	Pre-existing eye conditions	
Routes of Entry:	Ingestion, inhalation, skin and eye contact	
NIOSH/RTECS NO:	GE7350000	

The toxicological properties of this product have not been thoroughly investigated

12. ECOLOGICAL INFORMATION

Ecotoxicity:	LC50 – Leuciscus idus melanotus – 440 mg/L – 48 hrs
Persistence and Degradability:	No data available
Bioaccumulative Potential:	No data available
Mobility in Soil:	No data available
Other Adverse Effects:	No data available

13. DISPOSAL CONSIDERATION

Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
EPA Hazardous Waste Number:	No data available

14. TRANSPORT INFORMATION

Domestic (D.O.T.):	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

International:

IMDG:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

IATA:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

15. REGULATORY INFORMATION

TSCA: Yes

SARA TITLE III:

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: No

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: Acute Health Hazard

Massachusetts Right to Know Components: No components are subject to the Massachusetts Right to Know Act

Pennsylvania Right to Know Components: CAS NO.: 77-92-9 Citric acid

New Jersey Right to Know Components: CAS NO.: 77-92-9 Citric acid

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Rating:	Health Hazard	Chronic Health Hazard	Flammability	Physical Hazard
	2		0	0
NFPA Rating:	Health Hazard	Fire Hazard	Reactivity Hazard	Special Hazard
	2	0	0	

***PhytoTechnology Laboratories®* provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. The above information is intended to be used only as a guide to the appropriate precautionary handling of this material by a properly trained person. *PhytoTechnology Laboratories®* shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.**

Revision Date: 15 Jun 15