

SECTION 1: Identification of the Substance / Mixture and of the Company / Undertaking**1.1. Product Identifier**

Product name : Citric acid, Anhydrous
CAS-No. : 77-92-9
Synonyms : 2-Hydroxy-1,2,3-propanetricarboxylic acid

1.2. Details of the Distributor of the Safety Data Sheet

Company Name : GreenSol Limited
Address : #39-41 Marryat Street, San Fernando, Trinidad, West Indies
Telephone : +1(868) 225-4858
Mobile : +1(868) 720-2517
Email : sdeokiesingh@greensolltd.com

1.3. Emergency Telephone Number

Emergency Number : +1(868) 720-2517 (GREENSOL)
: +1(800) 424-9300 (CHEMTREC)

SECTION 2: Hazard Identification

Hazard Pictogram :



GHS07

Signal Word : **WARNING****Emergency Overview**

Appearance : white crystalline powder
Danger : Causes severe eye irritation and possible injury. Causes skin and respiratory
Target Organs : Respiratory systems, eyes, skin
Skin : Causes skin irritation. Some references state that citric acid has allergenic properties but, no animal or human studies was found to support this claim. It does not seem likely that citric acid is a sensitizer since it is found in the body as an essential component of the citric acid cycle which releases energy for physiological functions. Citric acid is widely distributed in plants and in animal tissues and fluids.
Ingestion : May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Excessive intake of citric acid may cause erosion of the teeth.
Inhalation : Causes respiratory tract irritation
Chronic Exposure : Repeated exposure may cause erosion of teeth. Chronic exposure may cause effects similar to those of acute exposure.

SECTION 3: Composition / Information on Ingredients

CAS #	Chemical Name	Percentage	EINECS / ELINCS
77-92-9	Citric Acid	>99	201-069

SECTION 4: First Aid Measures

Inhalation	:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.
Ingestion	:	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Skin Contact	:	In case of contact, wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician immediately.
Eye Contact	:	Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5: Firefighting measures

General Information	:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. The material in sufficient quantity and reduced particle size is capable of creating a dust explosion.
Fire Extinguishing Media	:	Use water spray, dry chemical, carbon dioxide, or chemical foam.
Flash point	:	Not applicable
Autoignition temperature	:	1010 deg C (1,850.00 deg F)
Explosion Limits, Lower	:	Not available
Upper	:	Not available
NFPA Rating	:	(estimated) Health: 3; Flammability: 1; Instability: 0

SECTION 6: Accidental Release Measures

General Information	:	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks	:	Vacuum or sweep up material and place into a suitable disposable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Spill may be carefully neutralized with lime (calcium oxide, CaO).

SECTION 7: Handling & Storage

- Handling** : Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Keep container tightly closed. Avoid ingestion and inhalation. Do not get in eyes. Avoid contact with skin and clothing.
- Storage** : Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

SECTION 8: Exposure Controls / Personal Protection

- Engineering Controls** : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safe shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA-Final PELs
Citric Acid	None Listed	None Listed	None Listed
OSHA Vacated PELs: Citric Acid	: No OSHA Vacated PELs are listed.		
Eyes	: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN 166.		
Skin	: Wear appropriate protective gloves to prevent skin exposure. Wear appropriate protective clothing to prevent skin exposure.		
Clothing	: Wear appropriate protective clothing to prevent skin exposure.		
Respirators	: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.		

SECTION 9: Physical and Chemical Properties

- Physical State** : Crystalline powder
- Appearance** : White
- Odour** : Odourless
- Solubility** : 59.2% (20 C)
- Specific Gravity** : 1.665 g/cm³
- pH** : 1.7 (10% soln)
- % Volatiles by volume** : @ 21C (70F): 0
- Boiling Point** : 175 deg C (dec)
- Freezing/ Melting Point** : 153 deg C
- Viscosity** : Not Available
- Decomposition temperature** : 175 deg C

Melting Point	: 580C (1076F)
Vapour density	: Not Available
Vapour Pressure	: 3.70E-009 mm Hg @25 deg C
Molecular Formula	: C6H8O7
Molecular Weight	: 192. 12
Evaporation Rate	: Not available

SECTION 10: Stability and Reactivity

Stability	: Stable under normal temperatures and pressures.
Hazardous Decomposition Products	: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization	: Will not occur.
Incompatibilities with Other Materials	: Metal nitrates, strong oxidizing agents, strong reducing agents, strong bases, metals.
Conditions to Avoid:	: Dust generation, moisture.

SECTION 11: Toxicological Information**RTECS#:**

CAS# 77-92-9: GE350000

LD50/LC50:

CAS# 77-92-9

Draize test, rabbit, eye: 750 ug/24H Severe;

Draize test, rabbit, skin: 500 mg/24H Mild;

Oral, mouse: LD50 = 5040 mg/kg;

Oral, rat: LD50 = 3 gm/kg ;< BR

Carcinogenicity:

Not listed by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology	: No information available
Teratogenicity	: No information available
Reproductive Effects	: No information available
Neurotoxicity	: No information available
Mutagenicity	: No information available
Other Studies	: No data available

SECTION 12: Ecological Information

No information available.

SECTION 13: Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally,



waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None Listed

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SECTION 14: Transportation Information

	US DOT	Canada TDG
Shipping Name:	Not Regulated	Not Regulated
Hazard Class:		
UN Number:		
Packing Group:		

SECTION 15: Regulatory Information

US FEDERAL

TSCA

CAS# 77-92-9 is listed in the TSCA inventory

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule

Section 12b

None of the chemicals are listed under TSCA Section 12b

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ

SARA Codes

CAS #77-92-9: acute

Section 313 Clean Air Act:

No Chemicals are reportable under Section 313

This material does not contain any hazardous air pollutants

This material does not contain any Class 1 Ozone depletors

This material does not contain any Class 2 Ozone depletors

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA

None of the chemicals in this product are listed as Priority Pollutants under the CWA

None of the chemicals in this product are listed as Toxic Pollutants under the CWA

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA

STATE:

CAS #77-92-9 is not present on state lists from CA, PA, MN, MA, FL or NJ



California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed

European /International Regulations

European Labelling in Accordance with EC Directives

Hazard Symbols:

XI

Risk Phrases:

R 36/37/38 Irritating to eyes, respiratory system and skin

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 37/39 Wear suitable gloves and eye/face protection

WGK (Water Danger/Protection)

CAS# 77-92-9: 0

Canada-WHMIS

This product has a WHMIS classification of D2B

Canadian Ingredient Disclosure List

CAS# 77-92-9 is listed on the Canadian Ingredient Disclosure List

SECTION 16: Other Information

Notice to Reader:

This SDS provides the information contained in this document in good faith but makes no representation as to its accuracy. This document is intended solely to guide the safe handling of the material by a properly trained individual. The final determination of the suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be handled with caution. Although some hazards are described, it cannot be guaranteed that these are the only hazards that exist.

Version	Date of Change	Change Description	Responsible Person
2	02-03-2023	Updated to supplier SDS Rev. 2	Laboratory Coordinator