



OXCON
SYSTEMS LLC

RETARDER SDS

Conforms to OSHA CFR 29 1910. 1200 and aligns to the United Nations Globally Harmonized System

Conforms to The United Nations Regulation Globally Harmonized System

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II — Europe

Conforms to Regulation (EC) No 1272/2008 and aligns to the United Nations Globally Harmonized System

Conforms to the Australian Preparation of Safety Data Sheets for Hazardous Chemicals under section 274 of the Work Health and Safety Act

Section 1 — Chemical Product and Company Identification

1.1 Product Name: Citric Acid, Anhydrous

1.2 Recommended Use: Food, industrial and technical applications

1.3 **RESTRICTIONS on use:** None

1.4 Hazmat Service Emergency Response Number: 800-373-7542

International Emergency Telephone Number +1-484-951-2432

Contract Number: 1171

Section 2 — Hazards Identification

2.1 GHS HAZARD Hazard Classes

Acute toxicity dermal

Skin irritation

Eye irritation

Specific target organ toxicity single exposure

HAZARD CATEGORIES

Category 5

Category 3

Category 2A

Category 3

2.2 Signal Word: **Warning**



2.3 Pictograms: Irritant

2.4 Hazard Statements

PHYSICAL HAZARDS: None

HEALTH HAZARDS:	H313 May be harmful in contact with skin H315 Causes skin mild irritation H319 Causes serious eye irritation H335 May cause respiratory irritation
ENVIRONMENTAL HAZARDS:	None
PRECAUTIONARY STATEMENTS:	P102: Keep out of reach of children P202: Do not handle until all safety precautions have been read and understood P261: Avoid breathing dust P264: Wash hands thoroughly after use P280: Wear Protective gloves, clothing and eye protection
RESPONSE STATEMENTS:	P301 +P310+P331: IF SWALLOWED: USA Immediately the National POISON CENTER at 800-222-1222 OUTSIDE <u>USA</u> Immediately call poison center or doctor. DO NOT induce vomiting P303+P361+353: IF ON SKIN Take off immediately all contaminated clothing. Rinse skin with water P304-340: IF INHALED, Remove to fresh air and keep comfortable for breathing P305+P351: IF IN EYES rinse cautiously with water for at least 15 minutes P306+P361: IF ON CLOTHING, Take off contaminated clothing P330 Rinse mouth
STORAGE STATEMENTS:	P403: Keep Cool Store in a well ventilated place
DISPOSAL STATEMENTS:	P501: Dispose of content and/or container in accordance with local, regional, national or international regulations

2.5 Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases see section 15

Symbol(s) Irritant

2.6 Hazards not otherwise classified (HNOC) or not covered by GHS — None

2.7 OSHA Hazard Statement

WARNING! CITRIC ACID CAUSES EYE, SKIN, AND RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN SENSITIZATION REACTION. Do not breathe mists or dusts. Do not allow contact with eyes, skin, or clothing. Keep container closed. Avoid generation of dusts, which can result in a dust explosion. Use only with adequate ventilation. Wash thoroughly after handling

Section 2 — Hazards Identification

3.1

CAS#	EC#	CHEMICAL NAMES	PERCENT	OTHER IDENTIFIERS
77-92-9	201-069-1	CITRIC ACID, ANHYDOUS	PERCENT	OTHER IDENTIFIERS

Section 4 First Aid Measures

4.1 Eye: Dusts and solution may cause severe irritation to the eyes, with symptoms that include redness, tearing, and pain. Concentrated solutions may be corrosive to the eyes and cause corneal ulcerations.

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

4.2 Skin: This Product may cause moderate irritation of the skin. Citric Acid may cause allergic contact dermatitis with prolonged or repeated contact.

Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

4.3 Ingestion: Citric Acid may cause mild gastrointestinal irritation, with symptoms including nausea, diarrhea, vomiting, and abdominal pain. Concentrated solutions may cause necrotic and ulcerative lesions on oral mucous membranes. Chronic ingestion of high concentration Citric Acid can result in erosion of tooth enamel.

Ingestion: DO NOT INDUCE VOMITING! Have victim rinse mouth thoroughly with water, if conscious. Never give anything by mouth to a victim who is unconscious or having convulsions. Contact a physician or poison control center immediately.

4.4 Inhalation: Dusts and mists from solutions may cause mild to moderate irritation of the nose and throat. Overexposure could cause coughing, sneezing, and labored breathing.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult and **IF TRAINED**, give oxygen. Get medical aid. Do **NOT** use mouth-to-mouth resuscitation without protection.

4.4 Inhalation: After first aid, get appropriate paramedic, or community medical support. The severity of outcome following ingestion may be more related to the time between ingestion and treatment, rather than the amount ingested. Therefore, there is a need for rapid treatment of any ingestion exposure.

5.1 General fire Hazards

Can burn; slight fire hazard when exposed to heat or flame. Citric Acid poses a serious dust explosion hazard. Finely divided dusts from this material can form explosive mixtures in air. Large dust clouds from product have the potential to ignite explosively.

5.2 Hazardous Combustion Products

Carbon dioxide and carbon monoxide are normal products of combustion. Incomplete combustion may produce irritating fumes and acid smoke.

5.3 Extinguishing Media

Carbon dioxide, dry chemical, foam or water

5.4 Fire Fighting Equipment/Instructions

Fire fighters should wear full face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling any combustion products.

Section 6 — Accidental Release Measures

6.1 Spill/Leak Procedures: Wear appropriate protective equipment and clothing during clean up. Addition of lime (calcium oxide) will neutralize Citric Acid and precipitate calcium citrate. Shovel the material into waste clean up. Prevent spill rinsate from contamination of storm drains, sewers, soil or groundwater.

6.2 Spills: Avoid direct contact with material. If sweeping of a contaminated area is necessary use a dust suppressant agent, which does not react with product

Section 7 — Handling and Storage

7.1 Handling Precautions:

Do not breathe dust. Avoid all contact with skin and eyes. Use this product only with adequate ventilation. Wash thoroughly after handling. Avoid accumulation of dusts, which can lead to a serious hazard of dust explosion. Areas in which this compound is used should be wiped down periodically so that this substance is not allowed to accumulate. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

7.2 Storage Requirements: Store in a tightly closed container in a cool, dry and well ventilated area.

Section 8 — Exposure Controls/ Personal Information

8.1

Chemical Names	ACGIH - TLV	OSHA - PEL
Citric Acid, Anhydrous	5 mg/m ³ TWA (Respirable fraction)	5 mg/m ³ TWA (Respirable fraction)

8.2

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value.

OSHA = US Occupational Safety and Health Administration. PEL = Permissible Exposure Limits.

NOTE: TWA Means "TWA is the employee's average airborne exposure in any 8 hour work shift of a 40 work week which shall not be exceeded.

8.3 Ventilation:

Provide general or local exhaust ventilation systems to maintain airborne concentrations below TLV/PELs. Local exhaust ventilation are preferred because it prevents contaminant dispersion in to the work area by controlling it at its source.

8.4 Contaminated Equipment:

Separate contaminated work clothes from street clothes and launder before reuse. Remove this material from your shoes and clean personal protective equipment.

8.5 Personal protective equipment

8.5.1 Respiratory protection

Where risk assessment shows air purifying respirators are appropriate use a full face respirator with multi purpose combination (US) or type AXBEK (EN14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

8.5.2 Hand Protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use. Select gloves tested to the ANSI/ISEA 105 2011 or European EN374 Standard

Full contact: Nitrile rubber

Splash contact: Nitrile rubber

This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use. It should not be construed as offering an approval for any container. Thoroughly wash the area after a spill or leak specific use scenario.

8.5.3 Eye protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

8.5.4 Skin and body protection

Impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to concentration and amount of the dangerous substance at the specific workplace.

8.6 Protective Clothing Pictograms



Splash Goggles



Gloves



Protective Apron



Dust Respirator

Section 9 — Physical and Chemical Properties

9.1

Appearance	White	Odor	None, with a Strong acid taste
Physical State:	Powder different granular sizes	PH:	2.2 (10g/l aqueous solution);
Auto Ignition:	Liquid 500°C (932°F)	Density:	1.665g/cm ³ (20°C)
Flammability Classification:	Not applicable	Viscosity:	Not applicable
Solubility (H ₂ O):	750,000mg/l water solution	Specific Gravity:	1.665 @ 20 deg C
Melting Point:	154°C (309°F)	Particle Size:	Different granular sizes
Bulk Density:	725 kg/m ³	Chemical Formula:	C ₆ H ₈ O ₇
Molecular Weight:	192.12 g/mol	Upper Flammable Limit (UEL):	Not applicable
Flash Point:	99.9°C (212°F)	Lower Flammable Limit (LEL):	Not applicable

Section 10 — Stability and Reactivity

10.1 Stability: Stable under ordinary conditions of use and storage

10.2 Polymerization: Hazardous polymerization has not been reported

10.3 Chemical Incompatibilities:

Potassium tartrate, alkalis, alkaline earth carbonates and bicarbonates, metal nitrates, acetates, sulfides

10.4 Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide are normal products of combustion. Incomplete combustion may produce irritating fumes and acrid smoke.

Section 11 — Toxicological Information

11.1 Product Name	Results	Species	Dose	Exposure
Citric Acid, Anhydrous	Oral LD50	Mouse	5400 mg/kg	None Listed
Citric Acid, Anhydrous	Oral LD50	Rat	5404 mg/kg	None Listed
Citric Acid, Anhydrous	Oral LD50	Rat	7060 mg/kg	Citric Acid, Anhydrous

11.2 Route of Entry: Inhalation, Ingestion

11.3 Aspiration Hazard: None

11.4 Skin Corrosion/Irritation: Causes skin irritation. Repeated exposure may cause skin dryness or cracking.

11.5 Serious Eye Damage/Irritation: Causes eye irritation.

11.6 Specific Target Organ Toxicity (single Exposure): May cause respiratory track irritation

11.7 Reproductive toxicity: Not Teratogenic

11.8 Mutagenicity: Not mutagenic

11.9 Specific Target Organ Toxicity (Repeated Exposure): Contains material which may cause damage to the following organs eyes, skin, and respiratory tract.

11.10 Signs and Symptoms: Causes respiratory tract irritation, digestive tract irritation, severe eye irritation and skin irritation

11.11 Other Toxicological Information: Persons with pre-existing eye, skin, respiratory, or allergic conditions may be more sensitive.

11.12 Carcinogenicity:

Chemical Name	IARC	ACGIH	NTP	OSHA
Citric acid, Anhydrous	Not listed	Not listed	Not listed	Not listed

Section 12 — Ecological Information

12.1

Product Name	Results	Species	Exposure
Citric Acid, Anhydrous	LC50 625 mg/l	Fish	96 hours
Citric Acid, Anhydrous	EC50 640 mg/l	Algae	48 hours
Citric Acid, Anhydrous	LC50 80 mg	Daphnia	48 hours

This chemical is not regarded as toxic to aquatic organisms. However DO NOT discharge into a sewer or waterway.

12.2 Mobility: No date available

12.3 Persistence/degradability: Will biodegrade in by 98% in 7 days. Zahn wellness test OECD No 302B

12.4 Bioaccumulation: No date available

12.5 Other adverse effects: No date available

Section 13 — Disposal Consideration

13.1 Disposal: DO NOT REUSE EMPTY CONTAINER! Container should be completely emptied prior to discard. Container with residues should be considered to be hazardous wastes. Contact a licensed contractor for detailed recommendations. Follow applicable federal, state, and local regulations.

Section 14 — Transportation Information

14.1

Regulatory Information	UN#	Proper Shipping Name	Hazard Class	PG	Label	Additional Information
DOT Classification		Not Regulated				
TDG Classification		Not Regulated				
RID/ARD Classification		Not Regulated				
IMDG Classification		Not Regulated				
ICAO/IATA Classification		Not Regulated				
Australian Classification		Not Regulated				

Section 15 — Regulatory Information

15.1 US Regulations

US. Toxic Substances Control Act: Citric Acid, Anhydrous is listed on the TSCA Inventory 40 CFR 720.30

CERCLA Hazardous Substances and corresponding RQs: None

SARA Community Right-to-know program: None

SARA 311/212: Acute health hazard

Clean Water Act: None

Clean Air Act: None

OSHA: Irritant

State Regulations

Californica prop. 65: None

Chemicals on the following state Right to Know Lists:

Massachusetts: This product is not on the Massachusetts Inventory.

New Jersey: This product is not on the New Jersey Inventory.

Pennsylvania: This Product is not on the Pennsylvania Inventory.

15.2 Canadian Regulation:

WHMIS Classification: **Citric Acid, Anhydrous**

E–Corrosive material



E-Corrosive

WHMIS Health Effects Criteria Met by this Chemical:

E–Corrosive to skin

The following substances are specified on the public Portion of the Domestic Substances List (DSL):
This Product is listed on the Canadian Domestic Substances List (DSL)

15.3 Europe Regulations

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Europe inventory: **Citric Acid, Anhydrous**



EC Symbols

EC Classification: Irritant

EC Risk Phrases:

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

International Regulations:

Australian Inventory of Chemical Substance: This product is on the Inventory.

National Existing Chemical Inventory in Taiwan: This Product is on the Inventory.

Philippine Inventory of Chemicals and Chemical Substances this product is on the Inventory.

China Existing Chemical Inventory: This product is on the Inventory.

Section 16 Other Information

16.1 Disclaimer:

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER NO responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above is furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use.

16.2 References: CHEMpendium database of Canadian Centre for Occupational Health and Safety (CCOHS), JJ Keller on Line and MSDS and SDS of chemicals in this mixture.

16.3 SDS Preparation Date: 12/11/2014

SDS Previous issue Date: None

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