



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

Issuing Date: 10-Apr-2026

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Version: 3

1. Identification

Product identifier

Product Name Citric Acid 50% FG

Other means of identification

Product Code 900727

Synonyms 2-hydroxypropane-1,2,3-tricarboxylic acid, 3-hydroxy-3-carboxy-1,5-pentanedioic acid, 2-Hydroxy-1,2,3-propanetricarboxylic acid, beta-Hydroxytricarballic acid

Recommended use of the chemical and restrictions on use

Recommended Use Industrial, Manufacturing or Laboratory use.

Restrictions on Use None known

Details of the supplier of the safety data sheet

Manufacturer Address

Hawkins, Inc.
2381 Rosegate
Roseville, MN 55113
(612) 331-6910

E-mail SDS@hawkinsinc.com for SDS questions. All others contact
customer.service@hawkinsinc.com

Emergency Telephone: CHEMTREC: 1-800-424-9300 (US) / +1 703-741-5970 (International)

2. Hazard(s) identification

Classification of the substance or mixture

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Category 3 Target organ effects: Respiratory irritation.	

Hazards not otherwise classified (HNOC)

Not applicable

Label elements



Danger

Hazard statements

Causes severe skin burns and eye damage.

May cause respiratory irritation.

Precautionary Statements - Prevention

Do not breathe dust, fume, gas, mist, vapors and spray.
 Wash face, hands and any exposed skin thoroughly after handling.
 Avoid breathing dust, fume, gas, mist, vapors and spray.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 Wash contaminated clothing before reuse.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 Immediately call a POISON CENTER or doctor.
 Call a POISON CENTER or doctor if you feel unwell.
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Precautionary Statements - Storage

Store locked up.
 Store in a well-ventilated place. Keep container tightly closed.

Precautionary Statements - Disposal

Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

Conditions	Chemical hazard classification	Category
Evaporation to dryness will form a combustible dust.	Combustible dust	Not applicable

Other Information

No information available.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Synonyms

2-hydroxypropane-1,2,3-tricarboxylic acid, 3-hydroxy-3-carboxy-1,5-pentanedioic acid, 2-Hydroxy-1,2,3-propanetricarboxylic acid, beta-Hydroxytricarballic acid

Chemical name	CAS No.	Weight-%
Citric acid	77-92-9	49-51
Water	7732-18-5	Balance

Any concentration shown as a range is due to batch variation.

4. First-aid measures

Description of first aid measures

General advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation

Based on the low pH, citric acid would be expected to cause irritation to the respiratory tract, resulting in a higher cough response as the inhalation exposure concentration was

increased. Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur.

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. Redness. May cause blindness. Coughing and/ or wheezing. May cause redness and tearing of the eyes.
Effects of Exposure	Prolonged or repeated exposure may cause affection/discoloration of the teeth, irritation of the eye tissue, inflammation/damage of the eye tissue and tingling/irritation of the skin.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.
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5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous combustion products	Carbon oxides.
Explosion Data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Other information	Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways.
Methods for cleaning up	Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

7. Handling and storage**Precautions for safe handling**

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.
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General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing must not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store away from other materials.
Incompatible materials	Metal nitrates. Acids. Strong bases. Strong oxidizing agents. Metals. Amines.

8. Exposure controls/personal protection**Control Parameters**

Exposure Limits	This product, as supplied, contains materials that do not have reportable occupational exposure limits or are not subject to the reporting requirements of the local jurisdiction.
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Biological occupational exposure limits	This product, as supplied, contains materials that do not have reportable biological exposure limits or are not subject to the reporting requirements of the local jurisdiction.
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Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.
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Individual protection measures, such as personal protective equipment

Eye/face protection	Face protection shield. Tight sealing safety goggles.
Hand protection	Wear suitable gloves.
Skin and body protection	Wear suitable protective clothing. Chemical resistant apron.
Respiratory protection	Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. Use appropriate respiratory protection.
Environmental exposure controls	Do not allow into any sewer, on the ground or into any body of water.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance:	Clear
Color:	Colorless to light yellow
Odor:	Odorless

Property	Values	Remarks • Method
Melting Point/Freezing Point:	-13 °C / 9 °F	
Boiling point (or initial boiling point or boiling range)	No data available	
Flammability (solid, gas)	No data available	
Flammability Limits in Air:		
Upper Flammability Limit:	No data available	
Lower Flammability Limit:	No data available	
Flash Point:	No data available	
Autoignition Temperature:	No data available	
Decomposition temperature:	No data available	
SADT (°C)	No data available	
pH	2	
pH (as aqueous solution)	No data available	
Kinematic Viscosity:	No data available	
Dynamic Viscosity:	No data available	
Solubility	No data available	
Water solubility	No data available	
Partition coefficient n-octanol/water (log value)	No data available	
Vapor pressure (includes evaporation rate)	No data available	
Evaporation Rate (BuAc=1):	No data available	
Density and/or relative density	1.245	
Bulk Density:	No data available	
Liquid Density	No data available	
Vapor density (Air =1)	No data available	
Particle characteristics		
Particle Size	No data available	
Particle Size Distribution	No data available	

10. Stability and reactivity

Reactivity	Aqueous form is corrosive to copper, zinc, aluminum and their alloys.
Chemical stability	Unstable on exposure to moisture.
Possibility of hazardous reactions	May corrode aluminum, zinc, copper, and their alloys. Product mixed with metal nitrates may react explosively under certain conditions, such as those found during sol-gel combustion. In sol-gel combustion the mixture is dried to a gel and then combusted at approximately 300°C.
Conditions to Avoid:	Temperatures above 170°C. Exposure to air or moisture over prolonged periods. Excessive heat.
Incompatible materials	Metal nitrates. Acids. Strong bases. Strong oxidizing agents. Metals. Amines.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation

Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract.

Eye contact

Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May result in permanent damage including blindness.

Skin contact

Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May be harmful in contact with skin.

Ingestion

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

Burning sensation. Redness. May cause blindness. Coughing and/ or wheezing. May cause redness and tearing of the eyes.

Acute toxicity

Numerical measures of toxicity

The following ATE values have been calculated for the mixture

ATEmix (oral)	5,882.40 mg/kg
ATEmix (dermal)	3,925.50 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Citric acid 77-92-9	= 3 g/kg (Rat)	> 2000 mg/kg (Rat)	-
Water 7732-18-5	> 90 mL/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Classification based on data available for ingredients. Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC, ACGIH or NTP.

Reproductive toxicity

No information available.

STOT - single exposure	May cause respiratory irritation.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Other Adverse Effects:	No information available.
Interactive effects	No information available.

12. Ecological information

Ecotoxicity Based on available data, the classification criteria are not met.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Citric acid 77-92-9	-	LC50: =1516mg/L (96h, Lepomis macrochirus)	-	-

Ceriodaphnia dubia Acute Toxicity Evaluation: Citric Acid 50%: 48-hour NOEC: 250 ppm; 48-hour LOEC: 500 ppm; 48-hour LC50: 329.88 ppm (299.82-362.95 ppm).
Persistence and Degradability: No information available.

Bioaccumulative potential

Component Information

Chemical name	Partition coefficient	Bioconcentration factor (BCF)	Trophic magnification factor (TMF)
Citric acid 77-92-9	-1.72	-	-

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number (product as supplied) D002.

14. Transport information

DOT
Description Not DOT Regulated

15. Regulatory information

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA Complies

Chemical name	CAS No.	Inventory Listing Status	Commercial Activity Designation
Citric acid	77-92-9	Present	Active
Water	7732-18-5	Present	Active

DSL/NDL Complies

EINECS/ELINCS Complies

ENCS Complies

IECSC Complies

KECL Complies

PICCS Complies

AICS Complies

TCSI Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

TCSI - Taiwan Chemical Substance Inventory

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CAA (Clean Air Act)

This product does not contain any substances regulated as pollutants pursuant to Clean Air Act (CAA).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive

Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

OSHA - Process Safety Management - Highly Hazardous Chemicals

This product does not contain any substances regulated under Process Safety Management (29 CFR 1910.119).

US State Regulations

California Proposition 65

This product is not known to contain any Proposition 65 chemicals at or above detection limits

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable.

16. Other information

NSF Certification



Maximum Use (mg/L unless otherwise indicated): N/A

NFPA **Health hazards** 3 **Flammability** 0 **Instability** 0 **Special hazards** -

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	American Conference of Governmental Industrial Hygienists
ATE	Acute Toxicity Estimate
Ceiling	Maximum limit value
DOT	Department of Transportation (United States)
ECEL	Existing Chemical Exposure Limit
EPA	U.S. Environmental Protection Agency
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program (United States)
OEL	Occupational exposure limits
OSHA	Occupational Safety and Health Administration of the US Department of Labor
PPE	Personal protective equipment
SADT	Self-Accelerating Decomposition Temperature
STEL	Short Term Exposure Limit
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average
VOC	Volatile organic compounds

Prepared By: Product Compliance Department

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Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet