



# SAFETY DATA SHEET

Issue Date: 28-Jun-2012

Revision Date: 01-Oct-2024

Version 2.02

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

### Emergency telephone number

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

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

**Signal word:** Danger

### Hazard statements:

Causes severe skin burns and eye damage

May cause respiratory irritation



**Precautionary Statements - Prevention:**

Do not breathe dusts or mists  
 Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Use only outdoors or in a well-ventilated area

**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  
 Immediately call a POISON CENTER or doctor  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ 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  
 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/container to an approved waste disposal plant

**Unknown Acute toxicity:** Not applicable

**Other Information**

Not applicable

**3. Composition/information on ingredients**

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**

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. Get immediate medical advice/attention. 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.

**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 advice/attention.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

**Ingestion**

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water.

Never give anything by mouth to an unconscious person. Get immediate medical advice/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** Redness. Burning. May cause blindness. Coughing and/ or wheezing. 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.

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**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 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** 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** Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

## 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.

**Conditions for safe storage, including any incompatibilities****Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

**Incompatible Materials**

Acids. Strong bases. Strong oxidizing agents. Metals. Amines. Metal nitrates.

**8. Exposure controls/personal protection****Control parameters****Exposure Limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls****Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Face protection shield. Tight sealing safety goggles.

**Hand protection**

Wear suitable gloves. Impervious gloves.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

**Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced and ventilation is insufficient, a suitable respirator or evacuation may be required.

**Environmental exposure controls**

Do not allow into any sewer, on the ground or into any body of water.

**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 should 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.

**9. Physical and chemical properties****Information on basic physical and chemical properties****Physical State:**

Liquid

**Appearance:**

Clear

**Color:**

Colorless to light yellow

**Odor:**

Odorless

**Odor Threshold:**

No information available

**pH:****pH Range:**

<2

**Salt Out Point:**

No information available

**Melting Point/Freezing Point:**

-13 °C / 9 °F

**Boiling Point/Boiling Range:**

No information available

<b>Flash Point:</b>	No information available
<b>Evaporation Rate (BuAc=1):</b>	No information available
<b>Flammability (solid, gas):</b>	No information available
<b>Flammability Limits in Air:</b>	No information available
<b>Vapor Pressure (mm Hg):</b>	No information available
<b>Vapor density (Air =1):</b>	No information available
<b>Specific Gravity (H<sub>2</sub>O=1):</b>	1.245
<b>Water Solubility:</b>	No information available
<b>Solubility(ies):</b>	No information available
<b>Partition Coefficient (n-octanol/water):</b>	No information available
<b>Autoignition Temperature:</b>	No information available
<b>Decomposition Temperature:</b>	No information available
<b>Kinematic Viscosity:</b>	No information available
<b>Dynamic Viscosity:</b>	No information available

**Other information**

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Molecular Weight:</b>	192.13

**10. Stability and reactivity**

<b>Reactivity</b>	Aqueous form is corrosive to copper, zinc, aluminum and their alloys.
<b>Chemical stability</b>	Unstable on exposure to moisture.
<b>Possibility of hazardous reactions</b>	May corrode aluminum, zinc, copper, and their alloys.
<b>Conditions to avoid</b>	Exposure to air or moisture over prolonged periods. Excessive heat. Temperatures above 170°C.
<b>Incompatible Materials</b>	Acids. Strong bases. Strong oxidizing agents. Metals. Amines. Metal nitrates.
<b>Hazardous decomposition products</b>	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.

**Eye contact**

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

**Skin contact**

Specific test data for the substance or mixture is not available. Causes severe burns.

**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** Redness. Burning. May cause blindness. Coughing and/ or wheezing. 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.

**Numerical measures of toxicity**

**Acute Toxicity:**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 5,882.35 mg/kg  
ATEmix (dermal) 3,925.50 mg/kg

**Component Information**

Chemical name	Oral LD <sub>50</sub> :	Dermal LD <sub>50</sub> :	LC <sub>50</sub> (Lethal Concentration):
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** Causes severe burns.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

**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 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.

**12. Ecological information**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Citric acid 77-92-9	-	1516 mg/L (LC50 96 h - 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.

**Bioaccumulation:** There is no data for this product.

#### Component Information

Chemical name	Partition Coefficient:
Citric acid 77-92-9	-1.72

**Mobility:** No information available.

**Other Adverse Effects:** No information available.

### 13. Disposal considerations

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local, state, and national 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 Inventories

Chemical name	TSCA	AICS	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS
Citric acid 77-92-9	Present ACTIVE	Present	Present	-	Present	-	Present	Present	Present	Present
Water 7732-18-5	Present ACTIVE	Present	Present	-	Present	-	Present	Present	Present	Present

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

**AICS** - Australian Inventory of Chemical Substances

**DSL/NDSL** - 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

#### 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**

Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 and later calendar years will need to be consistent with updated hazard classifications.

**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.

**Clean Water Act (CWA)**

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).

**OSHA - Process Safety Management - Highly Hazardous Chemicals**

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

**Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS)**

This product does not contain any substances regulated under the Chemical Facility Anti-Terrorism Standards (6 CFR 27).

**16. Other information****NSF/ANSI/CAN 60 Certification****Maximum Use (mg/L unless otherwise indicated):**

<b>Prepared By:</b>	HSE Department
<b>Issue Date:</b>	28-Jun-2012
<b>Revision Date:</b>	01-Oct-2024
<b>Revision Note:</b>	SDS sections updated. 10.

**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**