



# Safety Data Sheet

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## Section 01 - Identification

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<b>Product Identifier</b>	Citric Acid, Anhydrous
<b>Other Means of Identification</b>	2-hydroxyl-1,2,3-propanyl-tri-carboxylic acid
<b>Product Use and Restrictions on Use</b>	Used as an acidulant or a sequestrant in food and pharmaceutical industries; also used in detergents, concrete admixtures and plasticizers
<b>Initial Supplier Identifier</b>	Panther Industries Inc 108 Internal Road Davidson, SK S0G1A0
<b>Prepared By</b>	Panther Industries Inc. Technical Writer Phone: 1 (306) 567-2814
<b>24-Hour Emergency Phone</b>	Phone: 1 (306) 567- 2814

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## Section 02 - Hazard Identification

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### GHS-Classification

**Serious Eye Damage/Eye Irritation** Category 2

### Physical Hazards

No known physical hazards

### **Warning**

### **Hazard Statements**

H319 – Causes serious eye irritation.

### **Pictograms**



### **Precautionary Statements**

P264 – Wash hands thoroughly after handling.

P280 – Wear eye protection and face 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.

P337 + P313 – If eye irritation persists: Get medical advice/attention.

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## Section 03 - Composition / Information on Ingredients

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Chemical Name	CAS Number	Weight %	Unique Identifiers
Citric Acid	77-92-9	100%	Not Available

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## Section 04 - First Aid Measures

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<b>Inhalation</b>	Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention if you feel unwell.
<b>Skin Contact / Absorption</b>	Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.
<b>Eye Contact</b>	Contact lenses should never be worn when working with this product. Flush immediately with water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.
<b>Ingestion</b>	If victim is alert and not convulsing give a glass of water to dilute. If spontaneous vomiting occurs lean victim forward to avoid breathing in vomitus. Rinse mouth and give more water. Contact Poison Control Centre or seek immediate medical attention.
<b>Additional Information</b>	Not Available

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## Section 05 - Fire Fighting Measures

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<b>Suitable Extinguishing Media</b>	Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.
<b>Unsuitable Extinguishing Media</b>	Not Available
<b>Specific Hazards Arising From the Chemical</b>	Potential combustible dust hazard. May burn if strongly heated. Carbon monoxide and carbon dioxide are products of combustion. Incomplete combustion may produce irritating fumes and acrid smoke.
<b>Special Protective Equipment for Fire-Fighters</b>	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
<b>Further Information</b>	Not Available

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## Section 06 - Accidental Release Measures

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<b>Personal Precautions / Protective Equipment / Emergency Procedures</b>	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.
<b>Environmental Precautions</b>	Prevent material from entering sewers or waterways.
<b>Methods and Materials for Containment and Cleaning Up</b>	Neutralize carefully with soda ash or sodium bicarbonate to a pH of 6 to 9. Contain spill with earth, sand, or absorbent material which does not react with spilled material. SMALL SPILLS OF SOLUTIONS: Soak up spill with absorbent material which does not react with spilled chemical. Put material in suitable, covered, labelled containers. Flush area with water. Contaminated absorbent material may pose the same hazards as the spilled product. SMALL SPILLS OF SOLID: Minimize dispersal of dust in air. Shovel into clean, dry, labelled containers and cover. Flush area with water. LARGE SPILLS: Contact fire and emergency services and supplier for advice.

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## Section 07 - Handling and Storage

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**Precautions for Safe Handling** This material is a CORROSIVE solid. It may be a COMBUSTIBLE DUST and so may be a DUST EXPLOSION HAZARD. Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Avoid generating dusts and mists. Prevent the release of dusts, mists and vapors into the workplace air. Use the smallest possible amounts in a well-ventilated area, separate from the storage area. Inspect containers for damage or leaks before handling.

**Conditions for Safe Storage** Store in a cool, dry area, out of direct sunlight and away from heat and ignition sources. Keep quantities stored as small as possible. Store away from incompatible materials. Storage facilities should be made of fire resistant materials and storage area should be clearly identified.

**Incompatibilities** Strong oxidizing agents and reducing agents, strong bases, and metal nitrates.

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## Section 08 - Exposure Controls and Personal Protection

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### Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Citric Acid	Not Established		

### Engineering Control(s)

**Ventilation Requirements** Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.

**Other** Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

### Protective Equipment

**Eyes/Face** Chemical goggles. A face shield may also be necessary.

**Hand Protection** Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

**Skin and Body Protection** Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.

**Respiratory Protection** Use NIOSH/MSHA approved respiratory protection when airborne dust is expected. In dusty atmosphere, use an approved dust respirator. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Thermal Hazards** Not Available

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## Section 09 - Physical and Chemical Properties

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### Appearance

**Physical State** Solid crystals, granules, and/or powder

**Colour** White

**Odour** Odourless

**Odour Threshold** Not Applicable

**Property**

**pH** 2.2 (1% solution)

**Melting Point/Freezing Point** 153°C

**Initial Boiling Point and Boiling Range** Decomposes

**Flash Point** Not Applicable

**Evaporation Rate** Not Available

**Flammability** Non-Flammable

**Upper Flammable Limit** 2.29kg/m<sup>3</sup> (dust)

**Lower Flammable Limit** 0.28kg/m<sup>3</sup> (dust)

**Vapour Pressure (mm Hg, 20°C)** Not Available

**Vapour Density (Air=1)** Not Available

**Relative Density** Not Available

**Solubility(ies)** 60g/100mL at 25°C in water

**Partition Coefficient: n-octanol/water** Log P<sub>ow</sub> = -1.72 (20°C)

**Auto-ignition Temperature** Not Available

**Decomposition Temperature** 175°C

**Viscosity** 6.5 cP, 50% aqueous solution at 25°C

**Explosive Properties** Not Available

**Specific Gravity (Water=1)** 1.665

**% Volatiles by Volume** 0

**Formula** C<sub>6</sub>H<sub>8</sub>O<sub>7</sub>

**Molecular Weight** 192.13

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## **Section 10 - Stability and Reactivity**

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**Reactivity** Reactions with metal nitrates are potentially explosive.

**Stability** Stable under normal conditions

**Possibility of Hazardous Reactions** None known

**Conditions to Avoid** Generation of dust, heat, flames, sparks, build-up of static electricity, and other ignition sources

**Incompatible Materials** Metal nitrates (potentially explosive reaction), alkali carbonates and bicarbonates, potassium tartrate. Will corrode copper, zinc, aluminum and their alloys.

**Hazardous Decomposition Products** Carbon dioxide and carbon monoxide may form when heated to decomposition.

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## **Section 11 - Toxicological Information**

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## Acute Toxicity

Component	Oral LD <sub>50</sub>	Dermal LD <sub>50</sub>	LC <sub>50</sub>
Citric Acid	3000mg/kg (rat)	Not Available	Not Available

## Chronic Toxicity – Carcinogenicity

Component	IARC
Citric Acid	Citric acid is not known to be carcinogenic.

<b>Skin Corrosion/Irritation</b>	No to moderate irritant,
<b>Ingestion</b>	May cause gastrointestinal irritation.
<b>Inhalation</b>	Dust is irritating to eyes, nose, throat, and respiratory tract, and may cause sore throat, coughing, and difficulty breathing.
<b>Serious Eye Damage/Irritation</b>	Severe irritant
<b>Respiratory or Skin Sensitization</b>	Citric acid aerosols may induce coughing and bronchoconstriction.
<b>Germ Cell Mutagenicity</b>	Citric acid is not known to be mutagenic.
<b>Reproductive Toxicity</b>	Citric acid is not known to cause reproductive toxicity.
<b>STOT-Single Exposure</b>	Not Available
<b>STOT-Repeated Exposure</b>	Not Available
<b>Aspiration Hazard</b>	Not Available
<b>Synergistic Materials</b>	Not Available

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## **Section 12 - Ecological Information**

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### Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Citric Acid	EC <sub>0</sub> (Scenedesmus quadricauda, 7d): 640mg/L	LC <sub>50</sub> (Leuciscus idus melanotus, 96hr): 440-760mg/L	LC <sub>50</sub> (Carcinus maenas, 48hr): 160mg/L
<b>Biodegradability</b>	Readily biodegradable		
<b>Bioaccumulation</b>	Not Available		
<b>Mobility</b>	Due to its physico-chemical characteristics citric acid is highly mobile in the environment and will partition to the aquatic compartment.		
<b>Other Adverse Effects</b>	Not Available		

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## **Section 13 - Disposal Considerations**

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<b>Waste From Residues/Unused Products</b>	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
<b>Contaminated Packaging</b>	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

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## **Section 14 - Transport Information**

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<b>UN Number</b>	Not Regulated
<b>UN Proper Shipping Name</b>	Not Regulated
<b>Transport Hazard Class(es)</b>	Not Regulated

<b>Packaging Group</b>	Not Regulated
<b>Environmental Hazards</b>	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
<b>Special Precautions</b>	Not Available
<b>Transport in Bulk</b>	Not Available

### TDG

**Other** Secure containers (full and/or empty) with suitable hold down devices during shipment and ensure all caps, valves, or closures are secured in the closed position.

**TDG PRODUCT CLASSIFICATION:** This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

## **Section 15 - Regulatory Information**

**NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.**

**NSF Certification**..... Product is certified under NSF for pH adjustment and membrane cleaner at a maximum dosage of: 125 mg/L

NSF product use restrictions based on requirements obtained from the NSF website for current requirements.

## **Section 16 - Other Information**

**Preparation Date** February 15, 2023

**Note:** The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

### **Attention: Receiver of the chemical goods / SDS coordinator**

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution<sup>®</sup> initiative, Panther Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. Panther will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

### **References**

- 1) CHEMINFO
- 2) eChemPortal
- 3) TOXNET
- 4) Transportation of Dangerous Goods Canada
- 5) HSDB
- 6) ECHA

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