


**SECTION 1: PRODUCT IDENTIFICATION**

|                            |  |
|----------------------------|--|
| <b>PRODUCT NAME</b>        | <b>CITRIC ACID, USP (Anhydrous)</b>  |
| <b>PRODUCT CODE</b>        | <b>0068</b>  |
| <b>SUPPLIER</b>            | <b>MEDISCA Inc.</b><br>Tel.: 1.800.932.1039   Fax.: 1.855.850.5855<br>626 Tom Miller Road, Plattsburgh, NY, 12901<br><b>MEDISCA Pharmaceutique Inc.</b><br>Tel.: 1.800.665.6334   Fax.: 514.338.1693<br>4509 Rue Dobrin, St. Laurent, QC, H4R 2L8<br><b>MEDISCA Australia PTY LTD</b><br>Tel.: 1.300.786.392   Fax.: 61.2.9700.9047<br>Unit 7, Heritage Business Park<br>5-9 Ricketty Street, Mascot, NSW 2020 |
| <b>EMERGENCY PHONE</b>     | CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300<br>NSW Poisons Information Centre: 131 126<br>National Chemical Emergency Centre 44(0)1235239670   |
| <b>RECOMMENDED USES</b>    | Pharmaceutical Manufacturing   |
| <b>RESTRICTIONS ON USE</b> | Not applicable   |

**SECTION 2: HAZARDS IDENTIFICATION**

|  |  |
|--|--|
| <b>GHS CLASSIFICATION</b>  | Eye Irritation (Category 2A)<br>Skin Irritation (Category 2)<br>Specific Target Organ Toxicity - Single Exposure (Category 3) - (respiratory tract)  |
| <b>PICTOGRAM</b>   |   |
| <b>SIGNAL WORD</b>   | Warning  |
| <b>HAZARD STATEMENT(S)</b>   | Causes serious eye irritation.<br>Causes skin irritation.<br>May cause respiratory irritation.   |
| <b>ADVERSE PHYSIOCHEMICAL,<br/>HUMAN HEALTH AND<br/>ENVIRONMENTAL EFFECTS<br/>PRECAUTIONARY STATEMENT(S)</b> | Repeated exposure may cause skin dryness or cracking.<br><br><b>Prevention</b><br>Wash thoroughly after handling. Do not touch eyes.<br>Wear eye protection/face protection, protective gloves.<br>Avoid breathing dust, fume, gas, mist, vapors and spray.<br>Use only outdoors or in a well-ventilated area. |

**Response** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical help.  
IF ON SKIN: Wash with plenty of water. If skin irritation occurs, get medical help. Take off contaminated clothing and wash it before reuse.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/if you feel unwell.

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

**Disposal** Dispose of contents and/or container in accordance with local regulations.

**HMIS CLASSIFICATION**

|                      |   |                            |   |
|----------------------|---|----------------------------|---|
| <b>Health Hazard</b> | 2 | <b>Flammability</b>        | 1 |
| <b>Reactivity</b>    | 0 | <b>Personal Protection</b> | E |

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**CHEMICAL NAME** 1,2,3-Propanetricarboxylic acid, 2-hydroxy-  
**BOTANICAL NAME** Not applicable  
**SYNONYM** Not applicable  
**CHEMICAL FORMULA** C<sub>6</sub>H<sub>8</sub>O<sub>7</sub>  
**CHEMICAL FAMILY** Linear aliphatic derivative  
**CAS NUMBER** 77-92-9  
**ALTERNATE CAS NUMBER** Not applicable  
**MOLECULAR WEIGHT** 192.10

**COMPOSITION**

| CHEMICAL NAME           | CAS NUMBER | EC NUMBER | % BY WEIGHT |
|-------------------------|------------|-----------|-------------|
| CITRIC ACID (Anhydrous) | 77-92-9    | 201-069-1 | 100         |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as health hazards and hence require reporting in this section.

**SECTION 4: FIRST-AID MEASURES**

**IN CASE OF EYE CONTACT** Flush with copious amounts of water for 15 minutes, separating eyelids with fingers. If irritation persists seek medical aid.

**IN CASE OF SKIN CONTACT** Wash with soap & water for 15 minutes. If irritation persists seek medical aid.

**IF SWALLOWED** Call a physician. Wash out mouth with water. Do not induce vomiting without medical advice.

**IF INHALED** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician

**MEDICAL ATTENTION AND SPECIAL TREATMENT** Get emergency medical help.

**SYMPTOMS CAUSED BY EXPOSURE** Not expected to present a significant hazard under anticipated conditions of normal use.

**SECTION 5: FIREFIGHTING MEASURES**

**SPECIFIC HAZARDS ARISING FROM THE CHEMICAL**

May form explosive dust-air mixtures. Finely dispersed particles form explosive mixtures in air. Keep containers cool to prevent rupture and release of material. Prevent deposition of dust.

**FLAMMABLE PROPERTIES**

Combustible

**HAZARDOUS COMBUSTION PRODUCTS**

Under fire conditions, hazardous fumes will be present.

**SUITABLE & UNSUITABLE EXTINGUISHING MEDIA**

**Small fire:** dry chemical, CO<sub>2</sub> or water spray. **Large fire:** dry chemical, CO<sub>2</sub>, alcohol resistant foam or water spray. Do not get water inside containers.

**PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**METHODS & MATERIAL FOR CONTAINMENT**

On land, sweep or shovel into suitable containers. Minimize generation of dust.

**CLEANUP PROCEDURE**

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Shut off all sources of ignition. Evacuate the area. If necessary, employ water fog to disperse the vapors. Absorb the matter with compatible vermiculite or other absorbing material. Place in a suitable container and retain for disposal. Ventilate and clean the affected area. Do not flush into sewerage system or to drains.

**REFERENCE TO OTHER SECTIONS**

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

**NOTES**

The solution in water is a medium strong acid. Reacts with oxidants and bases. Corrodes metal.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING**

Do not inhale. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling. Store away from incompatible materials, in a well-ventilated area. Eliminate all sources of ignition. Store in accordance with local regulations. Do not store in unlabeled containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

**CONDITIONS FOR SAFE STORAGE**

Store away from incompatible materials, in a well-ventilated area. Eliminate all sources of ignition. Store in accordance with local regulations. Do not store in unlabeled containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

**STORAGE CONDITIONS**

Store in original container, tightly sealed, protected from direct sunlight and moisture.

## SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

Chemical Name: CITRIC ACID (Anhydrous) CAS #: 77-92-9

|  | Country | Limit value-8 hours |                   | Limit value-Short Term |                   | IDLH | REL | Advisory | Notes |
|--|---------|---------------------|-------------------|------------------------|-------------------|------|-----|----------|-------|
|  |         | ppm                 | mg/m <sup>3</sup> | ppm                    | mg/m <sup>3</sup> |      |     |          |       |
|  |         |                     |                   |                        |                   |      |     |          |       |

|               |               |     |       |     |           |     |     |     |  |
|---------------|---------------|-----|-------|-----|-----------|-----|-----|-----|--|
| <b>OSHA</b>   | USA           | N/L | N/L   | N/L | N/L       | N/L | N/L | N/A | N/A  |
| <b>ACGIH</b>  | USA           | N/L | N/L   | N/L | N/L       | N/L | N/L | N/A | N/A  |
| <b>NIOSH</b>  | USA           | N/L | N/L   | N/L | N/L       | N/L | N/L | N/A | N/A  |
| <b>WEEL</b>   | USA           | N/L | N/L   | N/L | N/L       | N/L | N/L | N/A | N/A  |
| <b>HSIS</b>   | Australia     | N/L | N/L   | N/L | N/L       | N/L | N/L | N/A | N/A  |
| <b>HSE</b>    | UK            | N/L | N/L   | N/L | N/L       | N/L | N/L | N/A | N/A  |
| <b>GESTIS</b> | Germany (AGS) | N/L | 2(1)  | N/L | 4 (1)(2)  | N/L | N/L | N/A | (1) Inhalable fraction (2) 15 minutes average value            |
| <b>GESTIS</b> | Germany (DFG) | N/L | 2 (1) | N/L | 4 (1) (2) | N/L | N/L | N/A | (1) Inhalable fraction and vapour (2) 15 minutes average value |
| <b>GESTIS</b> | Switzerland   | N/L | 2 (1) | N/L | 4 (1) (2) | N/L | N/L | N/A | (1) Inhalable fraction (2) 15 minutes average value            |

N/L = Not listed ; N/A = Not Available

PELs are 8-hour TWAs = Limit value - Eight hours

Ceiling or Short-Term TWA = STEL = Limit value - Short term

#### EXPOSURE GUIDELINES

Consult local authorities for provincial or state exposure limits. Particulates not otherwise regulated, respirable fraction: 5 mg/m<sup>3</sup>

#### PERSONAL PROTECTIVE EQUIPMENT

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by WHMIS or OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. **Skin:** Wear appropriate gloves to prevent skin exposure. **Clothing:** Wear appropriate protective clothing to minimize contact with skin. **Respirators:** Follow WHMIS or OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. **Thermal Hazards:** For products representing a thermal hazard, appropriate Personal Protective Equipment should be used.

#### SPECIFIC ENGINEERING CONTROLS

Adequate mechanical ventilation. Fumehood, eye wash station, and safety shower.

#### BIOLOGICAL MONITORING

Not available

#### CONTROL BANDING

Not available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

#### PHYSICAL STATE

Solid

#### DESCRIPTION

Colorless, translucent crystals, or white, granular to fine, crystalline powder. Hygroscopic

#### SOLUBILITY

Very soluble in water; freely soluble in alcohol; very slightly soluble in ether.

#### ODOR

Odorless

#### FLAMMABILITY

Combustible

#### AUTO-IGNITION TEMPERATURE

1010°C, 1850°F

#### BOILING POINT

>175°C, >347°F (decomposes)

#### DECOMPOSITION TEMPERATURE

> 170°C, > 338°F

#### EVAPORATION RATE

>1

#### EXPLOSIVE LIMIT

0.28 - 2.29 (vol% in air)

#### FLASH POINT

100°C, 212°F

|   |               |  |                           |  |                                   |
|---|---------------|--|---------------------------|--|-----------------------------------|
| <b>log P<br/>(OCTANOL-WATER)</b>        | -1.72 (20°C)  | <b>LOWER FLAMMABLE/<br/>EXPLOSIVE LIMIT(S)</b> | 8 gm/ft <sup>3</sup>      | <b>MELTING/FREEZING<br/>POINT</b>              | (152 - 159)°C,<br>(305.6-318.2)°F |
| <b>PARTICLE<br/>CHARACTERISTICS</b>     | Not available | <b>OXIDIZING<br/>PROPERTY</b>                  | Not available             | <b>pH</b>                                      | 2.2 (1%)                          |
| <b>RELATIVE DENSITY<br/>(WATER = 1)</b> | 1.67          | <b>SPECIFIC GRAVITY</b>                        | 1.665 (20°C)              | <b>UPPER FLAMMABLE/<br/>EXPLOSIVE LIMIT(S)</b> | 65 gm/ft <sup>3</sup>             |
| <b>VAPOR DENSITY<br/>(AIR = 1)</b>      | Not available | <b>VAPOR PRESSURE</b>                          | < 0.0000001<br>kPa (25°C) | <b>VISCOSITY</b>                               | 6.5 mPa.s (25°C)<br>(dynamic)     |

The physical data presented above are typical values and should not be construed as a specification.

## SECTION 10: STABILITY AND REACTIVITY

|  |   |
|--|---|
| <b>REACTIVITY</b>                        | Absorbs humidity from air (hygroscopic)<br>The substance decomposes on heating above 175°C  |
| <b>CHEMICAL STABILITY</b>                | Stable under recommended storage conditions   |
| <b>INCOMPATIBLE MATERIALS</b>            | Potassium tartrate. Alkali and alkaline earth carbonates and bicarbonates. Acetates. Alkalies. Sulfides. Metal nitrates. Reducing agents. Oxidizing agents. |
| <b>HAZARDOUS DECOMPOSITION PRODUCTS</b>  | Toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides and other gases may occur   |
| <b>HAZARDOUS POLYMERIZATION</b>          | Will not occur  |
| <b>POSSIBILITY OF HAZARDOUS REACTION</b> | Not established   |
| <b>CONDITIONS TO AVOID</b>               | Moisture, sunlight and extreme temperatures. Take precautionary measures against static discharges.   |

## SECTION 11: TOXICOLOGICAL INFORMATION

|  |   |
|--|---|
| <b>ACUTE TOXICITY</b>                    | Oral: Rat: LD50: (mg/kg): > 2000<br>Dermal: Rat LD50: (mg/kg): > 5000<br>Inhalation: Rat: LC50: (mg/L/4hr): Not available   |
| <b>SKIN CORROSION/IRRITATION</b>         | Causes severe skin burns and eye damage: pH: 2.1 (0.1M Solution)<br>Local Effects: Rabbit: Skin irritation; Result: Moderate.                                     |
| <b>SERIOUS EYE DAMAGE/EYE IRRITATION</b> | Eye damage, category 1, implicit: pH: 2.1 (0.1M Solution)<br>Local Effects: Rabbit: Eye irritation; Result: Severe  |
| <b>RESPIRATORY SENSITIZATION</b>         | Due to lack of data the classification is not possible.   |
| <b>SKIN SENSITIZATION</b>                | Based on available data, the classification criteria are not met.<br>Sensitization: Local lymph node assay; Result: Non-sensitizing.; Species: Mouse; Organ: Skin |
| <b>GERM CELL MUTAGENICITY</b>            | Due to lack of data the classification is not possible.   |
| <b>CARCINOGENICITY</b>                   | <b>OSHA</b> CITRIC ACID is not listed.<br><b>NTP</b> CITRIC ACID is not listed.   |

|   |   |
|---|---|
| <b>ADDITIONAL CARCINOGENICITY INFORMATION</b>             | <b>IARC</b> CITRIC ACID is not evaluated.   |
| <b>REPRODUCTIVE TOXICITY</b>                              | <b>California Proposition</b> This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.<br>Due to lack of data the classification is not possible.   |
| <b>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE</b>   | Based on available data, the classification criteria are not met.<br>Respiratory tract irritation.  |
| <b>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE</b> | Based on available data, the classification criteria are not met.   |
| <b>ASPIRATION HAZARDS</b>                                 | Based on available data, the classification criteria are not met.   |
| <b>SIGNS AND SYMPTOMS OF EXPOSURE</b>                     | <b>ROUTES OF EXPOSURE:</b><br>Oral, Dermal, Inhalation, Eye contact<br><b>EARLY ONSET SYMPTOMS RELATED TO EXPOSURE:</b><br>Not available<br><b>DELAYED HEALTH EFFECT FROM EXPOSURE:</b><br>Teeth erosion. Reduced ionic calcium in plasma. Irregular heartbeat. Hypotension. Metabolic acidosis. Death.<br><br>Symptoms related to the physical, chemical, and toxicological characteristics:<br>Irritant effects. Rapid breathing. Convulsions   |
| <b>POTENTIAL HEALTH EFFECTS</b>                           | <b>Inhalation</b> May cause mucous membrane irritation with sore throat, coughing and shortness of breath.<br><b>Ingestion</b> May cause acute gastrointestinal irritation with abdominal pain and sore throat. Long term oral overexposure may cause damage to tooth enamel. Ingestion of large amounts may cause nausea, vomiting and diarrhea.<br><b>Skin</b> Causes irritation with discomfort, local redness, and possible swelling. Frequent or prolonged contact with the powder may irritate the skin and cause a skin rash (dermatitis).<br><b>Eyes</b> Causes serious eye irritation. May cause irritation with redness, pain, possible eye burns, conjunctivitis, ulceration and permanent cloudiness. |
| <b>SECTION 12: ECOLOGICAL INFORMATION</b>                 |   |
| <b>ECOTOXICITY</b>  | EC50: 48 Hr: Crustacea: (mg/L): Not available<br>LC50: 96 Hr: Fish (Goldfish): (mg/L): 440 - 706<br>EC50: 72 or 96 Hr: Algae (or other aqua plants): (mg/L): Not available  |
| <b>PERSISTENCE AND DEGRADABILITY</b>                      | Chemical oxygen demand (COD) = 728 mg O <sub>2</sub> /g<br>Biological oxygen demand/5 days (BOD) = 528 mg O <sub>2</sub> /g<br>Readily biodegradable 98% after 2 days   |
| <b>BIOACCUMULATIVE POTENTIAL</b>                          | Octanol/water partition coefficient as log Pow: -1.72 (20°C)<br>The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected   |
| <b>MOBILITY IN SOIL</b>                                   | Solubility in water: 59 g/100 ml (20°C)<br>Henry's Law Constant: 8.33E-18 atm-m <sup>3</sup> /mole (25°C)   |
| <b>OTHER ADVERSE EFFECTS</b>                              | Not available<br><br>This product is not intended to be released into the environment   |

**SECTION 13: DISPOSAL CONSIDERATIONS**
**DISPOSAL METHODS**

Dispose of in accordance with federal / local laws and regulations. Avoid release into the environment.

**SECTION 14: TRANSPORT INFORMATION**
**UN PROPER SHIPPING NAME**

Not dangerous good

**UN NUMBER**

Not applicable

**CLASS**

Not applicable

**PACKING GROUP**

Not applicable

**AUSTRALIA**
**HAZCHEM**

Not listed

**EU**
**TRANSPORT IN BULK ACCORDING  
TO ANNEX II OF MARPOL 73/78  
AND THE IBC CODE**

Not Listed

**ENVIRONMENTAL HAZARDS**

Not available

**SPECIAL SHIPPING  
INFORMATION**

Not applicable

**SECTION 15: REGULATORY INFORMATION**
**UNITED STATES REGULATIONS**

| Chemical Name & CAS | CERCLA 40 CFR Part 302.4 | SARA (Title III) 40 CFR | EPA 40 CFR Part 355 Appendix A | Appendix B | Pennsylvania | Right-to-know New Jersey | Massachusetts | California Prop 65 |
|---------------------|--------------------------|-------------------------|--------------------------------|------------|--------------|--------------------------|---------------|--------------------|
| CITRIC ACID 77-92-9 | N/L                      | N/L                     | N/L                            | N/L        | N/L          | N/L                      | N/L           | N/L                |

N/L = Not Listed; X = Listed

**AUSTRALIAN REGULATIONS**

| Chemical Name & CAS | Poisons and Therapeutic Goods | Therapeutic Goods Act | Code of Practices - Illicit Drug | Poisons Standard | Work Health and Safety Regulations | Inventory of Industrial Chemicals |
|---------------------|-------------------------------|-----------------------|----------------------------------|------------------|------------------------------------|-----------------------------------|
| CITRIC ACID 77-92-9 | N/L                           | N/L                   | N/L                              | N/L              | N/L                                | N/L                               |

N/L = Not Listed

**EU REGULATIONS**

| Chemical Name & CAS | REACH ANNEX XVII | REACH ANNEX XIV | EC 1005/2009 | EC 850/2004 | EC 1107/2009 | PIC - Prior Informed Consent Regulation | EC 2012/18 |
|---------------------|------------------|-----------------|--------------|-------------|--------------|---|------------|
| CITRIC ACID 77-92-9 | N/L              | N/L             | N/L          | N/L         | N/L          | N/L                                     | N/L        |

N/L = Not Listed; X = Listed

Any EU regulation not listed above is not applicable to this product.

SUBJECT TO INTERNATIONAL AGREEMENT Not applicable



## SECTION 16: OTHER INFORMATION

### REFERENCES

Available upon request

### ABBREVIATIONS AND ACRONYMS

**ACGIH** - American Conference of Governmental Industrial Hygienists; **AIHA WEEL** – American Industrial Hygiene Association Workplace Environment Exposure Levels; **CAESAR** – Computer Assisted Evaluation of industrial chemical Substances According to Regulations; **CAS** – Chemical Abstract Service; **CERCLA** – Comprehensive Environmental Response, Compensation, and Liability Act; **EC50** – Effective Concentration, 50%; **EPA** – Environmental Protection Agency; **GHS** – Global Harmonized System; **HMIS** – Hazardous Materials Information System; **HSE** – Health and Safety Executive; **HSIS** – Hazardous Substances Information System; **IARC** – International Agency for Research on Cancer; **IDLH** - Immediately Dangerous to Life or Health; **IRFMN** – Ready Biodegradability Model; **ISS** – Istituto Superiore Sanità; **LC50** – Lethal Concentration, 50%; **LD50** – Lethal Dose, 50%; **MSHA** - Mine Safety and Health Administration; **NIOSH** – National Institute for Occupational Safety and Health; **NTP** – National Toxicology Program; **OSHA PEL** – Occupational Safety & Health Administration Permissible Exposure Limits; **QSAR** – Quantitative Structure-activity relationship; **REL** - Recommended Exposure Limit; **SARA** – Superfund Amendments and Reauthorization Act; **STEL** – Short Term Exposure Limit; **TLV** – Threshold Limit Value; **TWA** – Time Weighted Average; **WHMIS** – Workplace Hazardous Materials Information System

### LAST REVISION

02/2023

### SUPERSEDES

10/2020

For a list of changes to the SDS since the last version, please communicate with MEDISCA at [www.medisca.com](http://www.medisca.com)

### DISCLAIMER

This document was created in accordance with OSHA, Safe Work Australia and WHMIS regulations. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. MEDISCA® shall not be held liable for any damage resulting from handling or from contact with the above product. Recipients of the product must take responsibility for observing existing laws and regulations.

### SUPPLEMENTARY INFORMATION

For all country specific requirements not outlined on this Safety Data Sheet, please request Supplementary Page to this Safety Data Sheet.