### SECTION 1: PRODUCT IDENTIFICATION

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>CITRIC ACID, USP (Anhydrous)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCT CODE</td>
<td>0068</td>
</tr>
<tr>
<td>SUPPLIER</td>
<td>MEDISCA Inc.</td>
</tr>
<tr>
<td></td>
<td>Tel.: 1.800.932.1039</td>
</tr>
<tr>
<td></td>
<td>661 Route 3, Unit C, Plattsburgh, NY, 12901</td>
</tr>
<tr>
<td></td>
<td>3955 W. Mesa Vista Ave., Unit A-10, Las Vegas, NV, 89118</td>
</tr>
<tr>
<td></td>
<td>6641 N. Belt Line Road, Suite 130, Irving, TX, 75063</td>
</tr>
<tr>
<td></td>
<td>MEDISCA Pharmaceutique Inc.</td>
</tr>
<tr>
<td></td>
<td>4509 Rue Dobrin, St. Laurent, QC, H4R 2L8</td>
</tr>
<tr>
<td></td>
<td>21300 Gordon Way, Unit 153/158, Richmond, BC V6W 1M2</td>
</tr>
<tr>
<td></td>
<td>MEDISCA Australia PTY LTD</td>
</tr>
<tr>
<td></td>
<td>Unit 7, Heritage Business Park</td>
</tr>
<tr>
<td></td>
<td>5-9 Ricketty Street, Mascot, NSW 2020</td>
</tr>
<tr>
<td>EMERGENCY PHONE</td>
<td>CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300</td>
</tr>
<tr>
<td></td>
<td>NSW Poisons Information Centre: 131 126</td>
</tr>
<tr>
<td>USES</td>
<td>Suppment (Acidifying agent, buffering agent)</td>
</tr>
</tbody>
</table>

### SECTION 2: HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>GHS CLASSIFICATION</th>
<th>Eye Irritation (Category 2A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Skin Irritation (Category 2)</td>
</tr>
<tr>
<td></td>
<td>Specific Target Organ Toxicity - Single Exposure (Category 3) - (respiratory tract)</td>
</tr>
<tr>
<td>PICTOGRAM</td>
<td>![Warning Symbol]</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>SIGNAL WORD</th>
<th>Warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAZARD STATEMENT(S)</td>
<td>Causes serious eye irritation. Causes skin irritation. May cause respiratory irritation.</td>
</tr>
<tr>
<td>AUSTRALIA-ONLY HAZARDS</td>
<td>Repeated exposure may cause skin dryness or cracking.</td>
</tr>
<tr>
<td>PRECAUTIONARY STATEMENT(S)</td>
<td>Prevention: Wash thoroughly after handling. Wear eye protection/face protection, protective gloves. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.</td>
</tr>
<tr>
<td></td>
<td>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 advice/attention. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. 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.</td>
</tr>
<tr>
<td></td>
<td>Storage: Store in a well ventilated place. Keep container tightly closed. Store locked up.</td>
</tr>
<tr>
<td></td>
<td>Disposal: Dispose of contents and/or container in accordance with local regulations.</td>
</tr>
</tbody>
</table>
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| CHEMICAL NAME | 1,2,3-Propanetricarboxylic acid, 2-hydroxy- |
| BOTANICAL NAME | Not applicable |
| SYNONYM | Not applicable |
| CHEMICAL FORMULA | C₆H₈O₇ |
| CAS NUMBER | 77-92-9 |
| ALTERNATE CAS NUMBER | Not applicable |
| MOLECULAR WEIGHT | 192.10 |

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.

Chemical family: Linear alphatic derivative.

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
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.

EXTINGUISHING MEDIA
Small fire: dry chemical, CO₂ or water spray. Large fire: dry chemical, CO₂, 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.
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.

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 unlabelled 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. Preserve in tight containers.

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

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

<table>
<thead>
<tr>
<th></th>
<th>TWA</th>
<th>Ceiling</th>
<th>STEL</th>
<th>REL</th>
<th>IDLH</th>
<th>Remarks</th>
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<tr>
<td>Safe Work Australia HSIS</td>
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<td>N/L</td>
<td>N/L</td>
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<tr>
<td>HSE</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>OSHA PEL</td>
<td>N/L</td>
<td>N/L</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>ACGIH TLV</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>-</td>
<td>-</td>
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<tr>
<td>NIOSH</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>-</td>
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<tr>
<td>AIHA WEEL</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

N/L = Not Listed

EXPOSURE GUIDELINES
Consult local authorities for provincial or state exposure limits. Particulates not otherwise regulated, respirable fraction: 5 mg/m³

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.

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE
Solid
### SAFETY DATA SHEET

**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

<table>
<thead>
<tr>
<th>ODOR THRESHOLD</th>
<th>pH</th>
<th>MELTING POINT</th>
<th>FREEZING POINT</th>
<th>DECOMPOSITION TEMPERATURE</th>
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<tbody>
<tr>
<td>Not available</td>
<td>2.1 (0.1M Solution)</td>
<td>(152 - 159)°C, (305.6-318.2)°F</td>
<td>(152 - 159)°C, (305.6-318.2)°F</td>
<td>&gt; 170°C, &gt; 338°F</td>
</tr>
<tr>
<td>BOILING POINT</td>
<td>Evaporation Rate</td>
<td>FLASH POINT</td>
<td>EXPLOSIVE LIMIT</td>
<td>VISCOSITY</td>
</tr>
<tr>
<td>&gt;175°C, &gt;347°F (decomposes)</td>
<td>&gt;1</td>
<td>100°C, 212°F</td>
<td>Not available</td>
<td>6.5 mPa.s (25°C) (dynamic)</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY</td>
<td>EVAPORATION RATE</td>
<td>VAPOR PRESSURE</td>
<td>RELATIVE DENSITY (WATER = 1)</td>
<td>AUTO-IGNITION TEMPERATURE</td>
</tr>
<tr>
<td>1.665 (20°C)</td>
<td>Not available</td>
<td>&lt; 0.0000001 kPa (25°C)</td>
<td>Not available</td>
<td>1010°C, 1850°F</td>
</tr>
<tr>
<td>UPPER FLAMMABLE/EXPLOSIVE LIMIT(S)</td>
<td>LOWER FLAMMABLE/EXPLOSIVE LIMIT(S)</td>
<td>VAPOR DENSITY (AIR = 1)</td>
<td>RELATIVE DENSITY (WATER = 1)</td>
<td></td>
</tr>
<tr>
<td>65 gm/ft³</td>
<td>8 gm/ft³</td>
<td>Not available</td>
<td>Not available</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY**  
Absorbs humidity from air (hygroscopic)

**STABILITY**  
Stable under recommended storage conditions

**MATERIALS TO AVOID**  

**HAZARDOUS DECOMPOSITION PRODUCTS**  
Toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides and other gases may occur

**HAZARDOUS POLYMERIZATION**  
Will not occur

**POSSIBILITY OF HAZARDOUS REACTION**  
Not established

**CONDITIONS TO AVOID**  
Moisture, sunlight and extreme temperatures. Take precautionary measures against static discharges.

### SECTION 11: TOXICOLOGICAL INFORMATION

**ACUTE TOXICITY**  
Oral: Rat: LD50: (mg/kg): 3000  
Dermal: Rat: LD50: (mg/kg): > 5000  
Inhalation: Rat: LD50: (mg/L/4hr): Not available

**SKIN CORROSION/IRRITATION**  
Causes severe skin burns and eye damage: pH: 2.1 (0.1M Solution)

**SERIOUS EYE DAMAGE/EYE IRRITATION**  
Eye damage, category 1, implicit: pH: 2.1 (0.1M Solution)
SAFETY DATA SHEET

RESPIRATORY OR SKIN SENSITIZATION
Respiratory sensitization: Due to lack of data the classification is not possible.
Skin sensitization: Based on available data, the classification criteria are not met.
Sensitization: Local lymph node assay; Result: Non-sensitizing.; Species: Mouse; Organ: Skin

GERM CELL MUTAGENICITY
Due to lack of data the classification is not possible.

CARCINOGENICITY
OSHA CITRIC ACID is not listed.
NTP CITRIC ACID is not listed.
IARC CITRIC ACID is not evaluated.
California Proposition 65 This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

ADDITIONAL CARCINOGENICITY INFORMATION
Due to lack of data the classification is not possible.

REPRODUCTIVE TOXICITY
Based on available data, the classification criteria are not met.
Reproductivity: 1000 mg/kg/day Reproductivity study; Result: No evidence of maternal toxicity, embryotoxicity, and fetotoxicity.; Species: Rat

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE
Respiratory tract irritation.

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE
Based on available data, the classification criteria are not met.

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

SIGNS AND SYMPTOMS OF EXPOSURE
Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms related to the physical, chemical, and toxicological characteristics Irritant effects. Rapid breathing. Convulsions.

INHALATION
May cause mucous membrane irritation with sore throat, coughing and shortness of breath.

INGESTION
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.

SKIN
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).

EYES
May cause irritation with redness, pain, possible eye burns, conjunctivitis, ulceration and permanent cloudiness.

SECTION 12: ECOLOGICAL INFORMATION

TOXICITY
EC50: 48 Hr: Crustacea: (mg/L): Not available
LC50: 96 Hr: Fish: (mg/L): 440 - 706
IC50: 72 Hr: Algae: (mg/L): Not available

PERSISTENCE AND DEGRADABILITY
Chemical oxygen demand (COD) = 728 mg O2/g
Biological oxygen demand/5 days (BOD) = 528 mg O2/g
Readily biodegradable 98% after 2 days

BIOACCUMULATIVE POTENTIAL
None - Octanol/water partition coefficient as log Pow: -1.72 (20°C)

MOBILITY IN SOIL
Solubility in water: 59 g/100 ml (20°C)
Henry's Law Constant: 8.33E-18 atm-m3/mole (25°C)

OTHER ADVERSE EFFECTS
This product is not intended to be released into the environment

Last Revision: 01/2018
SAFETY DATA SHEET

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORT INFORMATION

UNITED STATES & CANADA

UN PROPER SHIPPING NAME: Not dangerous good
UN NUMBER: Not applicable
CLASS: Not applicable
PACKING GROUP: Not applicable

AUSTRALIA

UN PROPER SHIPPING NAME: Not dangerous good
UN NUMBER: Not applicable
CLASS: Not applicable
PACKING GROUP: Not applicable

HAZCHEM
ENVIRONMENTAL HAZARDS: Not available
SPECIAL SHIPPING INFORMATION: Not applicable

SECTION 15: REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Chemical Name &amp; CAS</th>
<th>CERCLA 40 CFR Part 302.4</th>
<th>SARA (Title III) 40 CFR Part 372.65</th>
<th>EPA 40 CFR Part 355 Appendix A</th>
<th>Appendix B</th>
<th>Pennsylvania</th>
<th>Right-to-know New Jersey</th>
<th>Massachusetts</th>
<th>California Prop 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITRIC ACID 77-92-9</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
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</table>

N/L = Not Listed; X = Listed

AUSTRALIAN REGULATIONS

<table>
<thead>
<tr>
<th>Chemical Name &amp; CAS</th>
<th>Poisons and Therapeutic Goods Regulation</th>
<th>Therapeutic Goods Act</th>
<th>Code of Practices - Illicit Drug Precursors</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITRIC ACID 77-92-9</td>
<td>N/L</td>
<td>N/L</td>
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</tr>
</tbody>
</table>

SECTION 16: OTHER INFORMATION

REFERENCES
Available upon request

Last Revision: 01/2018
ABBREVIATIONS AND ACRONYMS

- **CAS** – Chemical Abstract Service
- **GHS** – Global Harmonized System
- **OSHA PEL** – Occupational Safety & Health Administration Permissible Exposure Limits
- **TWA** – Time Weighted Average
- **HSIS** – Hazardous Substances Information System
- **STEL** – Short Term Exposure Limit
- **AIHA WEEL** – American Industrial Hygiene Association Workplace Environment Exposure Levels
- **LD50** – Lethal Dose, 50%
- **IARC** – International Agency for Research on Cancer
- **NTP** – National Toxicology Program
- **WHMIS** – Workplace Hazardous Materials Information System
- **SARA** – Superfund Amendments and Reauthorization Act
- **EPA** – Environmental Protection Agency
- **CERCLA** – Comprehensive Environmental Response, Compensation, and Liability Act
- **HMIS** – Hazardous Materials Information System
- **NIOSH** – National Institute for Occupational Safety and Health
- **MSHA** – Mine Safety and Health Administration
- **ACGIH** – American Conference of Governmental Industrial Hygienists
- **IDHL** – Immediately Dangerous to Health or Life
- **TLV** – Threshold Limit Value
- **HSE** – Health and Safety Executive
- **REL** – Recommended Exposure Limit

LAST REVISION

01/2018

SUPERSEDES

08/2015

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.