


**SECTION 1: PRODUCT IDENTIFICATION**

<b>PRODUCT NAME</b>	<b>LACTIC ACID, USP (Racemic)</b>
<b>PRODUCT CODE</b>	<b>0565</b>
<b>SUPPLIER</b>	<b>MEDISCA Inc.</b> Tel.: 1.800.932.1039   Fax.: 1.855.850.5855 661 Route 3, Unit C, Plattsburgh, NY, 12901 6641 N. Belt Line Road, Suite 130, Irving, TX, 75063 <b>MEDISCA Pharmaceutique Inc.</b> Tel.: 1.800.665.6334   Fax.: 514.338.1693 4509 Rue Dobrin, St. Laurent, QC, H4R 2L8 21300 Gordon Way, Unit 153/158, Richmond, BC V6W 1M2 <b>MEDISCA Australia PTY LTD</b> Tel.: 1.300.786.392   Fax.: 61.2.9700.9047 Unit 7, Heritage Business Park 5-9 Ricketty Street, Mascot, NSW 2020
<b>EMERGENCY PHONE</b>	CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 NSW Poisons Information Centre: 131 126 National Chemical Emergency Centre 44(0)1235239670
<b>RECOMMENDED USES</b>	Manufacturing and Compounding
<b>RESTRICTIONS ON USE</b>	Not applicable

**SECTION 2: HAZARDS IDENTIFICATION**

<b>GHS CLASSIFICATION</b>	Acute Toxicity - Oral (Category 5) Skin Corrosion (Category 1B) Eye Damage (Category 1) Corrosive to metals (Category 1)
<b>PICTOGRAM</b>	
<b>SIGNAL WORD</b>	Danger
<b>HAZARD STATEMENT(S)</b>	May be harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. May be corrosive to metals.
<b>ADVERSE PHYSIOCHEMICAL, HUMAN HEALTH AND ENVIRONMENTAL EFFECTS</b>	Not Applicable.
<b>PRECAUTIONARY STATEMENT(S)</b>	<b>Prevention</b> Do not breathe dust or mist. Wear protective gloves, protective clothing, eye and face protection. Wash hands thoroughly after handling. Do not touch eyes. Keep only in original packaging.

<b>Response</b>	<p>IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Immediately rinse skin with water for several minutes. Wash contaminated clothing before reuse.</p> <p>IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately; Immediately call a poison center or medical professional;</p> <p>IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help; Immediately call a poison center or medical professional.</p> <p>Absorb spillage to prevent material damage.</p>		
<b>Storage</b>	<p>Store locked up.</p> <p>Store in a corrosion resistant container with a resistant inner liner.</p>		
<b>Disposal</b>	<p>Dispose of contents and/or container in accordance with local regulations.</p>		
<b>Health Hazard</b>	3	<b>Flammability</b>	0
<b>Reactivity</b>	0	<b>Personal Protection</b>	D

**HMIS CLASSIFICATION**

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<b>CHEMICAL NAME</b>	2-Hydroxypropanoic Acid
<b>BOTANICAL NAME</b>	Not applicable
<b>SYNONYM</b>	Propanoic acid, 2-hydroxy-
<b>CHEMICAL FORMULA</b>	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>
<b>CHEMICAL FAMILY</b>	Organic acid
<b>CAS NUMBER</b>	50-21-5
<b>ALTERNATE CAS NUMBER</b>	79-33-4, 598-82-3
<b>MOLECULAR WEIGHT</b>	90.078

CHEMICAL NAME	CAS NUMBER	EC NUMBER	% BY WEIGHT
LACTIC ACID	50-21-5	200-018-0	88.0 - 92.0

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.

<b>NOTES</b>	Balance water
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### SECTION 4: FIRST-AID MEASURES

<b>IN CASE OF EYE CONTACT</b>	Flush with copious amounts of water for 15 minutes, separating eyelids with fingers. If irritation persists seek medical aid.
<b>IN CASE OF SKIN CONTACT</b>	Wash with soap & water for 15 minutes. If irritation persists seek medical aid.
<b>IF SWALLOWED</b>	Call a physician. Wash out mouth with water. Do not induce vomiting without medical advice.
<b>IF INHALED</b>	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician
<b>MEDICAL ATTENTION AND SPECIAL TREATMENT</b>	Get emergency medical help.
<b>SYMPTOMS CAUSED BY EXPOSURE</b>	Not expected to present a significant hazard under anticipated conditions of normal use.

**SECTION 5: FIREFIGHTING MEASURES**
**SPECIFIC HAZARDS ARISING FROM THE CHEMICAL**

Not applicable

**FLAMMABLE PROPERTIES**

May be combustible at high temperature

**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 breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

**METHODS & MATERIAL FOR CONTAINMENT**

On land, sweep or shovel into suitable containers.

**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.

**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: LACTIC ACID CAS #: 50-21-5

	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>				
OSHA	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
ACGIH	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>	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A

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**

Liquid

**DESCRIPTION**

Colorless or yellowish, practically odorless, syrupy liquid. Is hygroscopic.

**SOLUBILITY**

Miscible with water, with alcohol, and with ether. Insoluble in chloroform.

**ODOR**

Odorless or with a slight acid odor

**FLAMMABILITY**

May be combustible at high temperature

**AUTO-IGNITION TEMPERATURE**

Not available

**BOILING POINT**

122 °C, 251.6 °F

**DECOMPOSITION TEMPERATURE**

Not available

**EVAPORATION RATE**

Non-volatile

**EXPLOSIVE LIMIT**

Not available

**FLASH POINT**

>112 °C, 233.6 °F (CC)

**log P (OCTANOL-WATER)**

-0.72

**LOWER FLAMMABLE/EXPLOSIVE LIMIT(S)**

Not available

**MELTING/FREEZING POINT**

(16.8-17)°C, (62.24-62.6)°F

**PARTICLE CHARACTERISTICS**

Not available

**OXIDIZING PROPERTY**

Not available

**pH**

< 1

**RELATIVE DENSITY (WATER = 1)**

Not available

**SPECIFIC GRAVITY**

1.25 (15°C)

**UPPER FLAMMABLE/EXPLOSIVE LIMIT(S)**

Not available

**VAPOR DENSITY (AIR = 1)**

Not available

**VAPOR PRESSURE**

0.0813 mm Hg (25°C)

**VISCOSITY**

0.0369 Pa·s (25°C, 88.6% solution)

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

## SECTION 10: STABILITY AND REACTIVITY

<b>REACTIVITY</b>	Exothermic reaction with alkaline substances. May be corrosive to metals. Metal corrosion: 1.14 mm/year (High Tensile SS400)
<b>CHEMICAL STABILITY</b>	Stable under recommended storage conditions
<b>INCOMPATIBLE MATERIALS</b>	Strong oxidants, Bases. Metals.
<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 Hygroscopic - Avoid exposure to moisture
<b>NOTES</b>	May react vigorously or violently, with increased risk of fire or explosion, with strong oxidizing agents, strong acids, or strong reducing agents. Mixtures of hydrofluoric acid, nitric acid, with lactic acid are unstable and can react vigorously, reaching high temperatures, and evolving gases Corrosive to many metals, including gray cast iron, steel, brass, nickel and lead, aluminum and copper alloys above 38°C, copper and bronze above 93°C. Not corrosive to titanium, gold, platinum, tantalum and zirconium.

## SECTION 11: TOXICOLOGICAL INFORMATION

<b>ACUTE TOXICITY</b>	LACTIC ACID (Pure): Oral: Rat: LD50: (mg/kg): 3543 Dermal: Rabbit LD50: (mg/kg): >2000 Inhalation: Rat: LC50: (mg/L/4hr): Not available
<b>SKIN CORROSION/IRRITATION</b>	Causes severe skin burns: pH < 1 Irritant. Rabbit: 500 mg/24hr sev. Irritation test. Result: Positive. Species: Guinea pig. Organ: Skin. Severity: Mild. Irritation test (5mg). Result: Irritant. Species: Rabbit. Organ: Skin. Severity: Severe.
<b>SERIOUS EYE DAMAGE/EYE IRRITATION</b>	Causes serious eye damage: pH < 1 Irritant. Rabbit: 750 ug/24hr sev. Irritation test (750 ug). Result: Positive. Species: Rabbit. Organ: Eye. Severity: Severe.
<b>RESPIRATORY SENSITIZATION</b>	Due to lack of data the classification is not possible.
<b>SKIN SENSITIZATION</b>	Due to lack of data the classification is not possible.
<b>GERM CELL MUTAGENICITY</b>	Due to lack of data the classification is not possible.
<b>CARCINOGENICITY</b>	<b>OSHA</b> No component of this product, present at ≥0.1%, is listed. <b>NTP</b> No component of this product, present at ≥0.1%, is listed. <b>IARC</b> No component of this product, present at ≥0.1% has been evaluated. <b>California Proposition 65</b> No component of this product, present at ≥0.1% is known to the State of California to cause cancer, birth defects, or any other reproductive harm.
<b>ADDITIONAL CARCINOGENICITY INFORMATION</b>	Due to lack of data the classification is not possible.
<b>REPRODUCTIVE TOXICITY</b>	Based on available data, the classification criteria are not met. 570 mg/kg Reproductivity test. Result: Negative. Species: Mouse

<b>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE</b>	Due to lack of data the classification is not possible.
<b>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE</b>	Due to lack of data the classification is not possible.
<b>ASPIRATION HAZARDS</b>	Due to lack of data the classification is not possible.
<b>SIGNS AND SYMPTOMS OF EXPOSURE</b>	<p><b>ROUTES OF EXPOSURE:</b> Oral, Dermal, Inhalation, Eye contact</p> <p><b>EARLY ONSET SYMPTOMS RELATED TO EXPOSURE:</b> Not available</p> <p><b>DELAYED HEALTH EFFECT FROM EXPOSURE:</b> Not available</p> <p>Symptoms related to the physical, chemical, and toxicological characteristics: Burning pain and severe corrosive skin damage. Permanent eye damage including blindness could result. Red eyes. Blurred vision. Burning in mouth, throat, and/or stomach. Gastrointestinal disturbances. Sweating. Shortness of breath.</p>
<b>POTENTIAL HEALTH EFFECTS</b>	<p><b>Inhalation</b>      May be harmful if inhaled. Does not readily form vapour. Inhalation exposures are unlikely unless the chemical is heated. Based on its acidity, mist would probably irritate respiratory tract. May cause nasal discomfort and discharge, shortness of breath, cough, chest pain. Severe overexposure could lead to chemical pneumonitis, pulmonary edema, coma and death.</p> <p><b>Ingestion</b>      Harmful if swallowed. May cause severe irritation and burns to mucous membranes, with nausea, vomiting, gastrointestinal bleeding, ulceration and possible perforation of the gastrointestinal tract, even death. Ingestion is not a typical route of occupational exposure.</p> <p><b>Skin</b>              Harmful if absorbed through skin. Based on pH, mist or liquid may cause moderate to severe irritation, redness, itching, pain, even burns, scarring, and permanent damage. Severity of effects depends on duration of exposure, concentration of acid does not seem to be a factor. In one study, volunteers exposed to 88% lactic acid experienced no irritation after 1h, but moderate to severe irritation after 2-4h.</p> <p><b>Eyes</b>              Causes serious eye damage. Corrosive. Mist or liquid causes severe irritation, burns and possible permanent corneal damage and blindness. In animal testing, a 15% solution caused severe injury.</p>

## SECTION 12: ECOLOGICAL INFORMATION

<b>ECOTOXICITY</b>	<p>LACTIC ACID (Pure):            EC50: 48 Hr: Crustacea: Daphnia magna: (mg/L): 180 - 320            LC50: 96 Hr: Fish: (mg/L): Not available            EC50: 72 or 96 Hr: Algae (or other aqua plants): (mg/L): Not available</p>
<b>PERSISTENCE AND DEGRADABILITY</b>	Expected to be readily biodegradable.
<b>BIOACCUMULATIVE POTENTIAL</b>	LogPow: -0.72
<b>MOBILITY IN SOIL</b>	<p>Water solubility: 1.00E+06 mg/L (Pure Lactic Acid)            Henry's Law Constant: 1.13E-07 atm-m<sup>3</sup>/mole (25°C) (Pure Lactic Acid)</p>
<b>OTHER ADVERSE EFFECTS</b>	<p>Not available</p> <p>This product is not intended to be released into the environment</p>

## SECTION 13: DISPOSAL CONSIDERATIONS

<b>DISPOSAL METHODS</b>	Dispose of in accordance with federal / local laws and regulations. Avoid release into the environment.
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**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 applicable

**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 Part 372.65	EPA 40 CFR Part 355		Pennsylvania	Right-to-know		California Prop 65
			Appendix A	Appendix B		New Jersey	Massachusetts	
LACTIC ACID 50-21-5	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 Precursors	Poisons Standard	Work Health and Safety Regulations	Inventory of Industrial Chemicals
LACTIC ACID 50-21-5	N/L	N/L	N/L	N/L	N/L	Listed

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
LACTIC ACID 50-21-5	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

03/2023

## SUPERSEDES

08/2021

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.