Material Safety Data Sheet

SECTION 1: Product and Supplier Identification

Product Name: Lactic Acid 88% (aqueous solution)
Chemical name: 2-Hydroxypropanoic acid / Lactic acid
CAS No.: 50-21-5
EC No.: 200-018-0
Molecular formula: C3H6O3
Product Form: Liquid
Recommended use: Industrial and formulation applications where the product grade is appropriate.
Restrictions on use: Use only in accordance with applicable regulations and product specifications.
Origin: USA
Supplier: Botanic Planet Canada Inc.
Address: 2 Bram Court Unit # 3 Brampton Ontario L6W 3R6 Canada
Phone: 905-455-4444
Email: info@botanicplanet.ca
Emergency Contact: (613)-996-6666 CANUTEC 24 HOUR EMERGENCY

2. HAZARD IDENTIFICATION

GHS/WHMIS classification: Skin Corrosion, Category 1C; Serious Eye Damage, Category 1.
Signal word: DANGER
Hazard statement: H314 – Causes severe skin burns and eye damage.
Additional hazard information: Concentrated lactic acid solution may be corrosive to the respiratory tract, particularly as mist or aerosol.
Precautionary statements:
P260 Do not breathe mist/vapours.
P280 Wear protective gloves, protective clothing, and eye/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340+P310 IF INHALED: Remove person to fresh air and get medical attention if symptoms occur. P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing and seek immediate medical attention.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.

Hazard pictogram:

3. COMPOSITION / INFORMATION ON INGREDIENTS

Lactic acid (CAS 50-21-5):	88.43% w/w.
Water (CAS 7732-18-5):	11.57% w/w.

4. FIRST-AID MEASURES

Inhalation: Move affected person to fresh air. Keep comfortable for breathing. Obtain medical attention if symptoms persist or breathing is affected.

Skin contact: Immediately remove contaminated clothing. Rinse affected skin with plenty of water/shower for at least 15 minutes. Obtain immediate medical attention for burns.

Eye contact: Immediately flush cautiously with plenty of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing and obtain immediate medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Give water only if the person is conscious and able to swallow. Obtain immediate medical attention.

Most important symptoms/effects: Severe skin burns, serious eye damage, irritation or corrosive injury to the respiratory tract.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water spray/mist, dry chemical, carbon dioxide, or foam appropriate for the surrounding fire.

Unsuitable extinguishing media: High-volume water jet may spread contaminated material.

Specific hazards: Heating or fire may generate carbon monoxide, carbon dioxide and irritating fumes.

Protective equipment: Firefighters should use appropriate protective clothing and self-contained breathing apparatus where necessary.

Additional advice: Cool exposed containers with water spray. Prevent contaminated fire water from entering drains or waterways.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep unnecessary personnel away. Avoid contact with skin and eyes. Avoid breathing mist/vapour. Wear appropriate PPE.

Environmental precautions: Prevent large quantities from entering drains, sewers or waterways.

Containment and cleanup: Stop the leak if safe to do so. Absorb with inert material such as sand, universal binder or other suitable absorbent. Collect into compatible, labeled containers for disposal. Wash the affected area with water after material has been removed, subject to local requirements. Spills may create slippery surfaces.

7. HANDLING AND STORAGE

Safe handling: Use adequate ventilation. Avoid contact with skin and eyes. Avoid generating mist/aerosol. Do not eat, drink or smoke while handling. Wash hands thoroughly after handling.
Storage conditions: Keep container tightly closed in a cool, dry, well-ventilated area away from direct sunlight. Store in acid-resistant/compatible containers. Recommended storage temperature should be maintained above the product's freezing point; supplier-specific storage conditions should be followed.
Incompatible materials: Strong bases/alkalis and strong oxidizing agents.
Suitable materials: HDPE or compatible stainless steel such as 316L, subject to equipment compatibility review.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits: No specific occupational exposure limit for lactic acid was identified in the referenced manufacturer SDS; follow applicable local workplace limits.
Engineering controls: Provide adequate general/local ventilation, especially where mist or aerosol may be generated. Provide eyewash and safety shower facilities.
Eye/face protection: Chemical splash goggles; use a face shield for operations with significant splash risk.
Skin protection: Chemical-resistant gloves and acid-resistant protective clothing. Select glove material and breakthrough time based on the actual task and supplier data.
Respiratory protection: Normally not required with adequate ventilation. If mist/vapour is generated or ventilation is inadequate, use a properly selected and approved respirator under a respiratory protection program.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colourless to light-yellow viscous liquid
Odour: Characteristic
pH: < 2 (typical for 88% aqueous solution)
Boiling point/range: Approximately 110–130 °C
Flash point: Not applicable / product-specific; verify for the actual formulation
Solubility in water: Completely miscible
Density: Approximately 1.0–1.3 g/cm^3;
Viscosity: Approximately 18.4 mPa·s at 25 °C

Chemical formula of lactic acid: $C_3H_6O_3$
Molecular weight of lactic acid: 90.08 g/mol

10. STABILITY AND REACTIVITY

Reactivity: Acidic material; may react with bases and some reactive metals.
Chemical stability: Stable under recommended storage and handling conditions.
Possibility of hazardous reactions: Neutralization with strong bases can be exothermic. Incompatible mixtures may generate heat or hazardous reactions.
Conditions to avoid: Excessive heat and uncontrolled contact with incompatible materials.
Incompatible materials: Strong bases/alkalis and strong oxidizing agents; evaluate compatibility with metals and other materials before use.
Hazardous decomposition products: Carbon monoxide, carbon dioxide and irritating/toxic fumes may form under fire or high-temperature conditions.

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure: Skin contact, eye contact, inhalation of mist/aerosol, and ingestion.
Acute toxicity: Lactic acid is not generally classified for acute systemic toxicity based on available data; concentrated solution is hazardous primarily because of corrosivity.
Skin corrosion/irritation: Causes severe burns.
Serious eye damage: Causes serious eye damage and may cause irreversible injury.
Respiratory effects: Mist/aerosol can cause irritation or corrosive injury to the respiratory tract.
Sensitization: Not classified based on available information.
Carcinogenicity: Not classified based on available information.
Mutagenicity: Not classified based on available information.
Reproductive toxicity: Not classified based on available information.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Large releases may adversely affect aquatic environments primarily through pH reduction.
Persistence/degradability: Lactic acid is readily biodegradable under appropriate conditions.
Bioaccumulation: Low bioaccumulation potential is expected.
Mobility: Highly water soluble and mobile in water.
Other adverse effects: Prevent uncontrolled discharge of concentrated product to drains or waterways.

13. DISPOSAL CONSIDERATIONS

Product disposal: Dispose of contents and container in accordance with applicable federal, provincial/state and local regulations. Do not discharge concentrated product to drains or waterways.

Contaminated packaging: Empty containers may retain hazardous residues. Handle and dispose of them in accordance with applicable regulations.
Waste classification is dependent on local regulations and the actual use of the material; the waste generator is responsible for final classification.

14. TRANSPORT INFORMATION

Common transport classification for concentrated lactic acid solutions:
UN number: UN3265
Proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name: Lactic acid
Transport hazard class: 8
Packing group: III
Marine pollutant: Not generally classified as a marine pollutant.
Transport requirements can vary with concentration, packaging, mode of transport and jurisdiction. Confirm the classification against the actual shipment before transport.

15. REGULATORY INFORMATION

Canada: Lactic acid (CAS 50-21-5) is listed on the Canadian Domestic Substances List (DSL) according to referenced supplier information.
WHMIS: This product should be classified and labeled under the applicable WHMIS requirements based on its actual composition and intended workplace use.
United States: Lactic acid is listed on the TSCA inventory according to referenced supplier information.
Other jurisdictions: Review applicable chemical inventory, workplace hazard communication, food-contact, transportation and environmental requirements before placing the product on the market.

16. OTHER INFORMATION

Prepared for: Lactic Acid 88%
SDS revision: 1.0
Date prepared: 2026-08-09