SAFETY DATA SHEET

Lactic Acid 88%

SECTION 1: IDENTIFICATION

Product identifier used on a label:	**Lactic Acid 88%**
Product Code:	1412
CAS-No.:	50-21-5
Synonyms:	DL-Lactic acid 2-Hydroxypropionic acid
Recommended use of the chemical and restrictions on use:	Acidifying agent, preservative
Chemical family:	Organic acid
Chemical formula:	$C_6H_8O_7$
Name, address and phone # of supplier:	Aqua Bond Inc. 440 Passmore Ave., Toronto, ON, M1V 5J8 (416) 754-7211

24 Hr. Emergency phone #: **CANUTEC (613) 996-6666**

SECTION 2: HAZARDS IDENTIFICATION

Classification of the chemical: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:
ACUTE TOXICITY – INHALATION – CATEGORY 4: Harmful if inhaled.
SKIN CORROSION/IRRITATION – CATEGORY 2: Causes skin irritation.
EYE DAMAGE/IRRITATION – CATEGORY 1: Causes serious eye damage.

Label elements:



Signal word: DANGER

Hazard statements:
H332 Harmful if inhaled.
H315 Causes skin irritation.
H318 Causes serious eye damage.

Precautionary statements:
<u>Prevention</u>
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in well-ventilated area.
P280 Wear protective gloves/eye protection/face protection.
<u>Response</u>
P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash before reuse.

Other Hazards: Not available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient name	Synonyms	CAS Number	Concentration (% weight)
Lactic acid	DL-Lactic acid 2-Hydroxypropionic acid	50-21-5	≥ 88 %
Water		7732-18-5	~ 12 %

SECTION 4: FIRST-AID MEASURES

Description of first aid measures:

General information: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin contact: Wash off with soap and plenty of water. Consult a physician.

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention if pain and irritation develops or persists.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed: Harmful if inhaled. Causes skin irritation. Causes serious eye damage. Irritation, Gastrointestinal complaints, Nausea, Diarrhea.

Indication of any immediate medical attention and special treatment needed: No data available.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:	Use media appropriate for the surrounding fire.
Suitable	Use water spray, dry chemical, alcohol-resistant foam, or carbon dioxide.
Unsuitable	water jet
Flash point:	Not Available.
Autoignition Temperature:	Not Available.
Specific hazards arising from the substance:	Carbon oxides
Hazardous thermal decomposition products:	Carbon oxides
Special protective equipment and precautions for fire-fighters:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
Environmental precautions:	Do not let product enter drains.
Methods and materials for containment and cleaning up:	Absorb with liquid-binding material, such as sand, diatomaceous earth, acid- or universal binding agents. Keep in suitable, closed containers for disposal.
Special spill response procedures:	Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in suitable container for disposal. Cleanup materials in accordance with local regulations.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
Conditions for safe storage:	Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat, and moisture. Storage class (TRGS 510): 10: Combustible liquids
Incompatible materials:	Strong oxidizing agents, strong reducing agents
Hazardous decomposition products:	Hazardous decomposition products formed under fire conditions: Carbon oxides.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Ingredient	**Exposure limits**
Lactic acid	No data available. Consult local authorities for acceptable exposure limits.
Engineering controls:	Handle in accordance with good industrial hygiene and safety practices. Wash hands after handling the product and at the end of workday.
Individual protection measures:	**Eye Protection**: Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Maintain eye wash fountain and safety shower facilities in work area. **Skin Protection**: Wear appropriate protective clothing, including boots, gloves, lab coat, as appropriate, to prevent skin contact. Handle with gloves. Gloves must be inspected prior to use. **Respiratory protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). **Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless or light yellow viscous liquid
Odour:	Faint acrid odor
Odour threshold:	Not available.
pH:	2 (1% aqueous solution)
Melting point/Freezing point:	16.8 °C
Initial boiling point/boiling range:	122 °C
Flash point:	113 °C
Evaporation rate:	Not available.
Flammability (solid; gas) :	Not available.
Lower flammable/explosive limit:	Not available.
Upper flammable/explosive limit:	Not available.
Vapour pressure:	0 kPa at 20 °C
Vapour density:	Not available.
Relative density:	1.21-1.22 g/cm^3 at 20 °C (68 °F)

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Solubility:	Soluble in water. Soluble in ethanol.
Partition coefficient (n-octanol/water) :	-0.62
Auto-ignition temperature:	Not available.
Decomposition temperature:	>200 °C
Viscosity:	Not available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	No data available.
Chemical stability:	Stable under normal conditions.
Possibility of hazardous reactions:	Will not occur.
Conditions to avoid:	Direct sunlight. Extremely high or low temperatures.
Incompatible materials:	Strong bases. Metals. May be corrosive to metals. Strong oxidizers. Carbides, chlorates, nitrates, picrates, permanganates, and peroxides.
Hazardous decomposition products:	Carbon monoxide. Carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity data

Acute toxicity:

Skin	LD50 Dermal: rabbit > 2,000 mg/kg
Eyes	Eyes: rabbit; severe eye irritation - Draize test
Respiratory	Not Available
Ingestion	LD50 Oral: rabbit 3,543 mg/kg
Information on the likely routes of exposure:	Skin, eyes, ingestion, inhalation
Signs & Symptoms of Exposure:	
Skin	Burning, itching, redness, inflammation and/or swelling of tissues.
Eyes	Eye burns, watering eyes.
Respiratory	Burning, choking, coughing, wheezing, laryngitis, shortness of breath.
Ingestion	Burning, choking, nausea, vomiting and severe pain.

Potential health effects (acute):	No data available.
Target organ effects:	No data available.
Carcinogenicity:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Potential chronic health effects:	No data available.
Teratogenicity:	No data available.
Developmental effects:	No data available.
Fertility effects:	No data available.

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Irritation/corrosion: Causes skin irritation. Causes serious eye damage.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:	Not Available
Aquatic Vertebrate	EC59 Daphnia magna (Water Flea): 180-320 mg/l -48 h
Aquatic Invertebrate	Mortality NOEC - Pseudokirchneriella subcapitata: 320 mg/l - 96 h
Terrestrial	EC50 - Pseudokirchneriella subcapitata (green algae): >2,800 mg/l - 84 h
Persistence and degradability:	Readily biodegradable.
Bioaccumulative potential:	No data available.
Mobility in soil:	Completely soluble.
Results of PBT and vPvB assessment:	No data available.
Other adverse effects:	No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
Contaminated packaging: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

UN Number:	3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Lactic acid)
Transport hazard class:	8
Packing group:	III
DOT (US)	UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S., (Lactic acid), 8, PG III
IMDG	UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC ,N.O.S., (Lactic acid), 8, PG III
IATA	UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S., (Lactic acid), 8, PG III
Special precautions for user:	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident.

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SECTION 15: REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

SECTION 16: OTHER INFORMATION

Revision date: April 5, 2021
UN = United Nations

Disclaimer

While the information and recommendations set forth are believed to be accurate as of data hereof, Aqua Bond Inc., makes no warranty with respect thereto and disclaims all liability from reliance thereon.