

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Lactic Acid 88%
CAS number	79-33-4
Synonyms	L(+)-lactic acid, S(+)-2-Hydroxypropanoic acid

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Food additive, feed additive, personal care, cleaning agent, industrial use, pharmaceutical raw material.
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1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin corrosion/irritation (Category 1)
Serious eye damage/eye irritation (Category 1)

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

Causes severe skin burns and eye damage.

Precautionary statements

Do not breathe vapours.
Wash skin thoroughly after handling.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Get emergency medical help immediately.
IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Lactic acid	L(+)-lactic acid, S(+)-2-Hydroxypropanoic acid	79-33-4	70-90%
Water	H ₂ O	7732-18-5	10-30%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled

If breathed in, move person into fresh air. No artificial respiration, mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact

Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed Clean mouth with water and drink afterwards plenty of water. Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Severe eye irritation, erythema, skin disorders, causes serious eye damage, causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Note to Physician: Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water mist, dry powder, carbon dioxide (CO₂), chemical foam.

Unsuitable extinguishing media High volume water jet.

5.2 Specific hazards arising from the substance or mixture

Exposure to decomposition products may be a hazard to health. Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

5.4 Further information

Flash Point No information available.

Autoignition Temperature 400 °C

Explosion limits

Upper No information available.

Lower No information available.

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
3	1	1	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Material can create slippery conditions. Use personal protective equipment.

6.2 Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Clean contaminated surface thoroughly. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep in an area equipped with acid resistant flooring. Store in original container. Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards. Keep away from direct sunlight.

Incompatibilities

Bases.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

Ensure that eyewash stations and safety showers are close to the workstation location. Safety glasses with side-shields. Eye wash bottle with pure water. Tightly fitting safety goggles. Wear face-shield and protective suit for abnormal processing problems.

Skin protection

Wear appropriate protective gloves.

Body Protection

Acid-resistant protective clothing, long sleeved clothing, footwear protecting against chemicals.

Respiratory protection

In the case of vapour formation use a respirator with an approved filter. Half mask with a particle filter P2 (EN 143). No personal respiratory protective equipment normally required.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless, light yellow.
Odor	Characteristic
Odor Threshold	No information available.
pH	< 2 (25 °C)
Melting Point/Range	< - 80 °C
Boiling Point/Range	110 - 130 °C

Evaporation Rate	No information available.
Flammability (solid)	Not applicable.
Flammability or explosive limit	
Upper	No information available.
Lower	No information available.
Vapor Pressure	ca. 0.038 Pa (20 °C)
Vapor Density	No information available.
Density	1.0 - 1.3 g/cm ³
Solubility	Completely miscible
Partition coefficient; n-octanol/water	log Pow: -0.54 (20 °C)
Autoignition Temp	400 °C
Decomposition Temp	No information available.
Viscosity	18.4 mPa.s @ 25 °C (dynamic)
Molecular Formula	C ₃ H ₆ O ₃
Molecular Weight	90.078
VOC Content(%)	No information available.
Oxidizing properties	No information available.

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

None known, based on information available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Temperature > 200 °C.

10.5 Incompatible materials

Bases, oxidizing agents.

10.6 Hazardous decomposition products

Build-up of dangerous/toxic fumes possible in cases of fire/high temperature. Carbon dioxide (CO₂). Carbon monoxide (CO).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Lactic acid	3.543-4.936 mg/kg (rat)	2.0 mg/kg (rabbit)	7.94 mg/L (rat)

Skin corrosion/irritation

Causes severe burns. Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation

Causes serious eye damage. May cause irreversible eye damage.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Lactic acid	79-33-4	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

None known.

Specific target organ toxicity - repeated exposure

None known.

Reproductive toxicity

No information available.

Chronic effects

No information available.

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results	
Lactic acid	LC50	Oncorhynchus mykiss	130 mg/L	96 h
	EC50	Daphnia magna	130 mg/L	48 h
	EC50	Pseudokirchneriella	> 2.8 mg/L	72 h
	EC50	Activated sludge	> 100 mg/L	3 h

LOEC	Oreochromus mossambica	2.18 mg/L	90 d
LC50	Colinus varginianus	> 2.25 mg/kg	14 d

12.2 Persistence and degradability

Persistence is unlikely.

12.3 Bio accumulative potential

The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

12.4 Mobility in soil

Will likely be mobile in the environment due to its water solubility.

12.5 Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating and toxic.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-no	UN 3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s (lactic acid)
Hazard Class	8
Packing Group	III

IMDG

UN-no	UN 3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s (lactic acid)
Hazard Class	8
Packing Group	III

IATA

UN-no	UN 3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s (lactic acid)

Hazard Class 8
Packing Group III

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous
Not listed.

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act
Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace
Not listed.

US state regulations

US. Massachusetts RTK - Substance List
Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Listed.

California Proposition 65

Not listed.

SECTION 16: Other information

Issue date: 09/25/2024

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.