

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	50-21-5
Synonyms	L(+)-lactic acid, S(+)-2-Hydroxypropanoic acid

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

Identified uses	Laboratory chemicals.
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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 1C
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	Prevention: Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Wear respiratory protection. Response: Immediately call a POISON CENTER or doctor/physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Disposal: Dispose of contents/container to an approved waste disposal plant.

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

Corrosive to the respiratory tract.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Lactic acid	2-Hydroxypropanoic acid	50-21-5	70-80%
Water	Aqua; 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 not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
If swallowed	Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue, and danger of perforation.

4.3 Indication of any immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	CO ₂ , dry chemical, dry sand, alcohol-resistant foam.
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Unsuitable extinguishing media	No information available.
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5.2 Specific hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin, and mucous membranes.

Hazardous Combustion Products: Carbon monoxide (CO). Carbon dioxide (CO₂).

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. Thermal decomposition can lead to release of irritating gases and vapors.

5.4 Further information

Flash Point 110 °C / 230 °F

Autoignition Temperature No information available.

Explosion limits

Upper No data available.

Lower No data 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

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Should not be released into the environment.

6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material.

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

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed, seek immediate medical assistance.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool, and well-ventilated place. Corrosives area.

Incompatibilities

Acids. Bases. Strong oxidizing agents. Reducing agents.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

8.2 Exposure controls

Appropriate engineering controls

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

Tight sealing safety goggles. Face protection shield.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the 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.

Recommended Filter type: Organic gases and vapours filter. Type A. Brown. Conforming to EN14387.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless, light yellow.
Odor	Pungent

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	No data available
Upper	
Lower	
Vapor Pressure	ca. 0.038 Pa (20 °C)
Vapor Density	No information available
Density	1.0 - 1.3 g/cm ³
Solubility	Soluble
Partition coefficient; n-octanol/water	log Pow: -0.54 (20 °C)
Autoignition Temp	No information available
Decomposition Temp	No information available
Viscosity	18.4 mPa.s @ 25 °C (dynamic)
Molecular Formula	C ₃ H ₆ O ₃
Molecular Weight	90.08 g/mol
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

No 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

Excess heat. Incompatible products.

10.5 Incompatible materials

Acids, Bases, Strong oxidizing agents, Reducing agents.

10.6 Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂).

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	3543 mg/kg (Rat)	>2 g/kg (Rabbit)	>7.94 mg/L (Rat) 4h

Skin corrosion/irritation

Irritating to skin.

Serious eye damage/eye irritation

Risk of serious damage to eyes.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Lactic acid	50-21-5	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

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue, and danger of perforation.

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 virginianus	> 2.25 mg/kg	14d

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	UN3265
Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Hazard Class	8
Packing Group	III

IMDG

UN-no	UN3265
Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Hazard Class	8
Packing Group	III

IATA

UN-no	UN3265
Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
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 applicable.

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

See Section 2 for more information.

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

Not listed.

California Proposition 65

Not listed.

SECTION 16: Other information

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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.