SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	L(+)-Lactic Acid
Molecular formula	:	C3-H6-O3
Chemical identity	:	S(+)-2-Hydroxypropanoic acid
CAS-No.	:	79-33-4
Chemical nature	:	Aqueous solution

Distributed By:

atpgroup

2 Madison Ave. Larchmont, NY 10538
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Manufacturer or supplier's details

Company	:	Jungbunzlauer Inc. 7 Wells Avenue Newton Centre, Massachusetts 02459 USA www.jungbunzlauer.com
Telephone	:	+1 617 969-0900
Telefax	:	+1 617 964-2921
E-mail address Responsible/issuing person	:	msds@jungbunzlauer.com
Emergency telephone number	:	CHEMTREC +1 800 424 9300

Recommended use of the chemical and restrictions on use

Recommended use	:	Food/ feedstuff additives, Pharmaceutical substance, Cleaning agent, Industrial use, Biocidal product, Personal care
Restrictions on use	:	None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation	:	Category 2
Serious eye damage	:	Category 1

GHS-Labelling - Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H318 Causes serious eye damage.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of water/.?.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
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.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical Name	CAS-No.	Concentration [%]
Hazardous components		
L(+)-lactic acid		>= 50
Non Hazardous components		
H2O		<= 50

SECTION 4. FIRST AID MEASURES

First aid procedures

Protection of first-aiders : Consult a physician.
No hazards which require special first aid measures.

If inhaled : If breathed in, move person into fresh air.
If symptoms persist, call a physician.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.

In case of skin contact : Take off contaminated clothing and shoes immediately.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : If easy to do, remove contact lens, if worn.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If eye irritation persists, consult a specialist.

If swallowed : Drink plenty of water.
If swallowed, DO NOT induce vomiting.

Notes to physician

Symptoms : Eye irritation may cause mild and mechanical irritation and thus symptoms which would be redness and pain.

Risks : Causes serious eye irritation.

Treatment : Symptomatic treatment

SECTION 5. FIREFIGHTING MEASURES

Fire fighting

Suitable extinguishing media	:	Water spray Dry powder Foam Carbon dioxide (CO2)
Further information	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In the event of fire and/or explosion do not breathe fumes.

Protective equipment and precautions for firefighters

Specific hazards during firefighting	:	Do not use a solid water stream as it may scatter and spread fire. Cool closed containers exposed to fire with water spray. Hazardous decomposition products formed under fire conditions. Exposure to decomposition products may be a hazard to health.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Wear fire resistant or flame retardant clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Material can create slippery conditions. Avoid inhalation of vapour or mist. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Local authorities should be advised if significant spillages cannot be contained. Prevent further leakage or spillage if safe to do so. No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Use mechanical handling equipment. Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Handling

Advice on safe handling	:	Wear personal protective equipment. Do not breathe vapours or spray mist. Avoid contact with skin and eyes.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Dust explosion class	:	Not applicable

Storage

Requirements for storage areas and containers	:	Keep in an area equipped with acid resistant flooring. Keep container tightly closed in a dry and well-ventilated place. Store in original container.
Advice on common storage	:	Incompatible with bases.
Storage temperature	:	> 41 °F (> 5 °C)
Other data	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Provide adequate ventilation.

Personal protective equipment

Respiratory protection	:	In the case of vapour formation use a respirator with an approved filter. Use NIOSH approved respiratory protection.
Hand protection Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.
Eye protection	:	Safety glasses Ensure that eyewash stations and safety showers are close to the workstation location.
Skin and body protection	:	Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Protective measures	:	Wear suitable protective equipment. When using do not eat, drink or smoke.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Avoid breathing vapours, mist or gas. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Aqueous solution
Colour	:	colourless, light yellow
Odour	:	characteristic
pH	:	< 2, (25 °C)
Boiling point/boiling range	:	110 - 130 °C
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1,100 - 1,250 g/cm3
Solubility(ies)		
Water solubility	:	completely miscible
Ignition temperature	:	Not applicable
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	5 - 60 mPa.s (25 °C)
Explosive properties	:	Not applicable
Oxidizing properties	:	No oxidising effect.
Molecular weight	:	90.08 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use. Hazardous decomposition products formed under fire conditions.
Conditions to avoid	:	Temperature > 200 °C
Incompatible materials	:	Bases Oxidizing agents
Hazardous decomposition products	:	Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

L(+)-lactic acid:

Acute oral toxicity	:	LD50 Oral Rat: 3,730 mg/kg
		LD50 Oral Mouse: 4,875 mg/kg
Acute dermal toxicity	:	LD50 Dermal Rabbit: > 2,000 mg/kg

Skin corrosion/irritation

Components:

L(+)-lactic acid:

: Species: Guinea pig
Result: Mild skin irritation

Species: Rabbit
Result: Severe skin irritation

Serious eye damage/eye irritation

Components:

L(+)-lactic acid:

: Species: Rabbit
Result: irritating

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Components:

L(+)-lactic acid:

Germ cell mutagenicity-Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Components:

L(+)-lactic acid:

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Potential Health Effects

Primary Routes of Entry	:	Eye contact Skin contact
Eyes	:	Contact with undiluted material may cause skin and eye irritation.
Aggravated Medical Condition	:	None known.
Symptoms of Overexposure	:	Eye irritation may cause mild and mechanical irritation and thus symptoms which would be redness and pain.

Experience with human exposure

Inhalation	:	Respiratory system No information available.
Skin contact	:	Skin May cause skin irritation in susceptible persons.
Eye contact	:	Eyes Redness, Itching
Ingestion	:	Digestive organs No information available.

NTP
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
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.
OSHA
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
ACGIH
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

L(+)-lactic acid :

Toxicity to fish	:	LC50 : 320 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates	:	(Daphnia pulex (Water flea)): 240 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Scenedesmus capricornutum (fresh water algae)): 3,500 mg/l

Persistence and degradability

Components:
L(+)-lactic acid :

Biodegradability	:	Testing period: 28 d Method: OECD Test Guideline 301D Remarks: Readily biodegradable
Biochemical Oxygen Demand (BOD)	:	0.45 mg/mg Incubation time: 5 d 0.6 mg/mg Incubation time: 20 d
Chemical Oxygen Demand (COD)	:	0.9 mg/mg

Bioaccumulative potential

Components:
L(+)-lactic acid :

Bioaccumulation	:	Remarks: The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.
Partition coefficient: n-octanol/water	:	log Pow: -0.62

Mobility in soil

Product:

Stability in soil	:	Remarks: Adsorbs on soil.

Other adverse effects

Components:
L(+)-lactic acid :

Results of PBT and vPvB assessment	:	This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of wastes in an approved waste disposal facility. In accordance with local and national regulations. Do not dispose of with domestic refuse. Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT
Not dangerous goods

IATA
Not dangerous goods

IMDG
Not dangerous goods

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : CAUSES SKIN IRRITATION, CAUSES EYE BURNS

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

REACH	On the inventory, or in compliance with the inventory
TSCA	On TSCA Inventory
EINECS	On the inventory, or in compliance with the inventory
DSL	All components of this product are on the Canadian DSL

Inventories

AICS (Australia), DSL (Canada), IECSC (China), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

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