

**L(+)-Lactic Acid**

Version 1.0

Revision Date 05/29/2015

Print Date 05/29/2015

**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:

**Manufacturer or supplier's details**

2 Madison Ave. Larchmont, NY 10538

Company : Jungbunzlauer Inc. Ph: 914-834-1881 Fax: 914-834-4611  
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Responsible/issuing person

Emergency telephone : CHEMTREC  
number : +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-Labeling - 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

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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 [%]
<b>Hazardous components</b>		
L(+)-lactic acid		>= 50
<b>Non Hazardous components</b>		
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**

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Suitable extinguishing media : Water spray  
Dry powder  
Foam  
Carbon dioxide (CO<sub>2</sub>)

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

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**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.

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**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/cm <sup>3</sup>
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.

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**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: &gt; 2,000 mg/kg

**Skin corrosion/irritation****Components:****L(+)-lactic acid:**: Species: Guinea pig  
Result: Mild skin irritationSpecies: 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**

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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:**

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- 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.



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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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