

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
Revision date 26-Feb-2024  
Revision Number 2.06

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	L-Lactic Acid
Product Code	129-02666

Supplier	FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-2029
Emergency telephone number	+81-6-6203-3741 / +81-3-3270-8571
Recommended uses	For research use only
Restrictions on use	Seek expert judgment when using for purposes other than those recommended.

## Section 2: HAZARDS IDENTIFICATION

## GHS classification

## Classification of the substance or mixture

Skin corrosion/irritation

Category 1

Serious eye damage/eye irritation

Category 1

## Pictograms



Signal word

Danger

## Hazard statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious 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

## Precautionary statements-(Response)

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- Immediately call a POISON CENTER or doctor/physician
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

## Precautionary statements-(Storage)

- Store locked up

## Precautionary statements-(Disposal)

- Dispose of contents/container to an approved waste disposal plant

## Others

Other hazards Not available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula  $\text{CH}_3\text{CH}(\text{OH})\text{COOH}$

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
L(+)-Lactic acid	85.0-92.0 (as $\text{CH}_3\text{CH}(\text{OH})\text{COOH}$ )	90.08	(2)-1369	*	79-33-4

Note on ISHL No.: \* in the table means announced chemical substances.

### Section 4: FIRST AID MEASURES

#### Inhalation

Remove to fresh air. If symptoms persist, call a physician.

#### Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

#### Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

#### Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

#### Protection of first-aiders

Use personal protective equipment as required.

### Section 5: FIRE FIGHTING MEASURES

#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder, Sand

#### Unsuitable extinguishing media

No information available

#### Specific hazards arising from the chemical product

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

#### Special extinguishing method

No information available

#### Special protective actions for fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

### Section 6: ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

#### Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

#### Methods and materials for contaminant and methods and materials for cleaning up

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

#### Recovery, neutralization

No information available

#### Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE

### Handling

#### Technical measures

Flammable. Avoid contact with high temperature objects, spark, and strong oxidizing agents. Use with local exhaust ventilation.

#### Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

#### Safety handling precautions

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity)

### Storage

#### Safe storage conditions

**Storage conditions** Store away from sunlight in well-ventilated place at room temperature (preferably cool). Keep container tightly closed.

**Safe packaging material** Glass

**Incompatible substances** Strong oxidizing agents

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

### Exposure limits

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

### Personal protective equipment

**Respiratory protection** Protective mask

**Hand protection** chemical protective gloves ( JIS T 8116 )

**Eye protection** protective eyeglasses or chemical safety goggles (JIS T 8147)

**Skin and body protection** Long-sleeved work clothes

### General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

If this product is classified as "Chemical Substances Hazardous to Skin, etc.", use appropriate protective equipment to them.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Form

**Color** Colorless - slightly yellow

**Turbidity** clear

**Appearance** liquid

### Odor

characteristic odor

### Melting point/freezing point

no data available

### Boiling point, initial boiling point and boiling range

no data available

### Flammability

no data available

### Evaporation rate:

no data available

<b>Flammability (solid, gas):</b>	no data available
<b>Upper/lower flammability or explosive limits</b>	
<b>Upper:</b>	no data available
<b>Lower:</b>	no data available
<b>Flash point</b>	No flash point
<b>Auto-ignition temperature:</b>	no data available
<b>Decomposition temperature:</b>	no data available
<b>pH</b>	no data available
<b>Viscosity (coefficient of viscosity)</b>	no data available
<b>Dynamic viscosity</b>	no data available
<b>Solubilities</b>	water , Ethanol , Diethyl ether : Very soluble . chloroform , petroleum benzine , carbon disulfide : practically insoluble,or insoluble .
<b>n-Octanol/water partition coefficient:(log Pow)</b>	no data available
<b>Vapour pressure</b>	no data available
<b>Specific Gravity / Relative density</b>	1.2 g/mL
<b>Vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

## Section 10: STABILITY AND REACTIVITY

### Stability

<b>Reactivity</b>	no data available
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Hazardous reactions</b>	None under normal processing
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark
<b>Incompatible materials</b>	Strong oxidizing agents
<b>Hazardous decomposition products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
L(+)-Lactic acid	3543 - 4936 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 7.9 mg/L ( Rat ) mist 4 h

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas-source information
L(+)-Lactic acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust-source information	Acute toxicity -inhalation mist-source information
L(+)-Lactic acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

### Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
L(+)-Lactic acid	Based on the NITE GHS classification results.

### Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
L(+)-Lactic acid	Based on the NITE GHS classification results.

### Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
L(+)-Lactic acid	Based on the NITE GHS classification results.

**Reproductive cell mutagenicity**

Chemical Name	germ cell mutagenicity source information
L(+)-Lactic acid	Based on the NITE GHS classification results.

**Carcinogenicity**

Chemical Name	Carcinogenicity source information
L(+)-Lactic acid	Based on the NITE GHS classification results.

**Reproductive toxicity**

Chemical Name	Reproductive toxicity source information
L(+)-Lactic acid	Based on the NITE GHS classification results.

**STOT-single exposure**

Chemical Name	STOT -single exposure- source information
L(+)-Lactic acid	Based on the NITE GHS classification results.

**STOT-repeated exposure**

Chemical Name	STOT -repeated exposure- source information
L(+)-Lactic acid	Based on the NITE GHS classification results.

**Aspiration hazard**

Chemical Name	Aspiration Hazard source information
L(+)-Lactic acid	Based on the NITE GHS classification results.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
L(+)-Lactic acid	EC50 : <i>Pseudokirchneriella subcapitata</i> 3.5 mg/L 70 h	LC50 : <i>Lepomis cyanellus</i> 130 mg/L 96 h	EC50 : <i>Daphnia magna</i> 240 mg/L 48 h

**Other data**

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
L(+)-Lactic acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

<b>Persistence and degradability</b>	No information available
<b>Bioaccumulative potential</b>	No information available
<b>Mobility in soil</b>	No information available
<b>Hazard to the ozone layer</b>	No information available

## Section 13: DISPOSAL CONSIDERATIONS

**Waste from residues**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated container and contaminated packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

## Section 14: TRANSPORT INFORMATION

**ADR/RID**

<b>UN number</b>	UN3265
<b>Proper shipping name:</b>	Corrosive liquid, acidic, organic, n.o.s. (L(+)-Lactic acid)
<b>UN classification</b>	8
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	II
<b>Marine pollutant</b>	Not applicable

**IMDG**

<b>UN number</b>	UN3265
<b>Proper shipping name:</b>	Corrosive liquid, acidic, organic, n.o.s. (L+)-Lactic acid)
<b>UN classification</b>	8
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	II
<b>Marine pollutant (Sea)</b>	Not applicable
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	No information available

**IATA**

<b>UN number</b>	UN3265
<b>Proper shipping name:</b>	Corrosive liquid, acidic, organic, n.o.s. (L+)-Lactic acid)
<b>UN classification</b>	8
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	II
<b>Environmentally Hazardous Substance</b>	Not applicable

## Section 15: REGULATORY INFORMATION

**Japanese regulations**

<b>Fire Service Act</b>	Not applicable
<b>Poisonous and Deleterious Substances Control Law</b>	Not applicable
<b>Industrial Safety and Health Act</b>	Not applicable
<b>Industrial Safety and Health Act (2024~)</b>	【2024.4.1~】Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Corrosive Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
<b>Civil Aeronautics Law</b>	Corrosive Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
<b>Pollutant Release and Transfer Register Law (2023.4.1-)</b>	Not applicable
<b>Export Trade Control Order</b>	Not applicable

## Section 16: OTHER INFORMATION

**Key literature references and sources for data etc.**

NITE: National Institute of Technology and Evaluation (JAPAN)  
<http://www.safe.nite.go.jp/japan/db.html>  
 IATA dangerous Goods Regulations  
 RTECS:Registry of Toxic Effects of Chemical Substances  
 Japan Industrial Safety and Health Association GHS Model SDS  
 Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.  
 Chemical Dictionary, Kyouritsu Publishing Co., Ltd.  
 etc

**Record of SDS revisions  
Disclaimer**

The following contents were revised. Regulatory information.

This SDS is according to JIS Z 7253: 2019. 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, 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.

GHS Classification is according to JIS Z 7252:2019. \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**