

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
Issue Date 01-Sep-2025  
Revision Number 1.02

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

|              |                     |
|--------------|---------------------|
| Product Name | L(-)-Malic Acid     |
| Product Code | 130-19162,134-19165 |

**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 2

Serious eye damage/eye irritation

Category 2A

## Pictograms



Signal word

Warning

## Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

## Precautionary statements-(Prevention)

- 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
- If eye irritation persists: Get medical advice/attention
- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation occurs: Get medical advice/attention
- Take off contaminated clothing and wash before reuse

## Precautionary statements-(Storage)

- Not applicable

## Precautionary statements-(Disposal)

- Not applicable

## Others

**Other hazards** Not available

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS****Single Substance or Mixture** Substance**Formula** HOOCCHOHCH<sub>2</sub>COOH

| Chemical Name      | Weight-% | Molecular weight | ENCS     | ISHL No. | CAS RN  |
|--------------------|----------|------------------|----------|----------|---------|
| (S)-(-)-Malic acid | 97.0     | 134.09           | (2)-1442 | *        | 97-67-6 |

**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**Water spray (fog), 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**

Sweep up and gather scattered particles, and collect it in an empty airtight container.

**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

Avoid contact with 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

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

### 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

Polyethylene

#### 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

Dust mask ( JIS T 8151 )

#### 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

White - nearly white

#### Appearance

crystalline powder - powder

### Odor

no data available

### Melting point/freezing point

103 °C

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

no data available

### Flammability

no data available

### Evaporation rate:

no data available

### Flammability (solid, gas):

no data available

### Upper/lower flammability or explosive limits

#### Upper:

no data available

#### Lower:

no data available

### Flash point

no data available

### Auto-ignition temperature:

no data available

### Decomposition temperature:

no data available

|                                                 |                                                                                  |
|-------------------------------------------------|----------------------------------------------------------------------------------|
| pH                                              | no data available                                                                |
| Viscosity (coefficient of viscosity)            | no data available                                                                |
| Dynamic viscosity                               | no data available                                                                |
| Solubilities                                    | water Ethanol and acetone : freely soluble . Diethyl ether : sparingly soluble . |
| n-Octanol/water partition coefficient:(log Pow) | no data available                                                                |
| Vapour pressure                                 | no data available                                                                |
| Specific Gravity / Relative density             | no data available                                                                |
| Vapour density                                  | no data available                                                                |
| Particle characteristics                        | no data available                                                                |

## Section 10: STABILITY AND REACTIVITY

### Stability

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

## Section 11: TOXICOLOGICAL INFORMATION

\*NITE: National Institute of Technology and Evaluation (JAPAN)  
[https://www.chem-info.nite.go.jp/en/chem/chrip/chrip\\_search/srhInput](https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput)  
 Data are described as CAS No. 6915-15-7.

### Acute toxicity

| Chemical Name      | Oral LD50            | Dermal LD50 | Inhalation LC50 |
|--------------------|----------------------|-------------|-----------------|
| (S)-(-)-Malic acid | > 3200 mg/kg ( Rat ) | N/A         | N/A             |

| Chemical Name      | Acute toxicity -oral- source information      | Acute toxicity -dermal- source information    | Acute toxicity -inhalation gas- source information |
|--------------------|-----------------------------------------------|-----------------------------------------------|----------------------------------------------------|
| (S)-(-)-Malic 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 |
|--------------------|------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| (S)-(-)-Malic 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  |
|--------------------|-----------------------------------------------|
| (S)-(-)-Malic acid | Based on the NITE GHS classification results. |

### Serious eye damage/ irritation

| Chemical Name      | Serious eye damage/irritation source information |
|--------------------|--------------------------------------------------|
| (S)-(-)-Malic acid | Based on the NITE GHS classification results.    |

### Respiratory or skin sensitization

| Chemical Name      | Respiratory or Skin sensitization source information |
|--------------------|------------------------------------------------------|
| (S)-(-)-Malic acid | Based on the NITE GHS classification results.        |

### Reproductive cell mutagenicity

| Chemical Name      | germ cell mutagenicity source information     |
|--------------------|-----------------------------------------------|
| (S)-(-)-Malic acid | Based on the NITE GHS classification results. |

### Carcinogenicity

| Chemical Name      | Carcinogenicity source information            |
|--------------------|-----------------------------------------------|
| (S)-(-)-Malic acid | Based on the NITE GHS classification results. |

**Reproductive toxicity**

| Chemical Name      | Reproductive toxicity source information      |
|--------------------|-----------------------------------------------|
| (S)-(-)-Malic acid | Based on the NITE GHS classification results. |

**STOT-single exposure**

| Chemical Name      | STOT -single exposure- source information     |
|--------------------|-----------------------------------------------|
| (S)-(-)-Malic acid | Based on the NITE GHS classification results. |

**STOT-repeated exposure**

| Chemical Name      | STOT -repeated exposure- source information   |
|--------------------|-----------------------------------------------|
| (S)-(-)-Malic acid | Based on the NITE GHS classification results. |

**Aspiration hazard**

| Chemical Name      | Aspiration Hazard source information          |
|--------------------|-----------------------------------------------|
| (S)-(-)-Malic acid | Based on the NITE GHS classification results. |

## Section 12: ECOLOGICAL INFORMATION

\*NITE: National Institute of Technology and Evaluation (JAPAN)

[https://www.chem-info.nite.go.jp/en/chem/chrip/chrip\\_search/srhInput](https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput)

Data are described as CAS No. 6915-15-7.

**Ecotoxicity** no data available

**Other data**

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

**Persistence and degradability** No information available  
**Bioaccumulative potential** No information available  
**Mobility in soil** No information available  
**Hazard to the ozone layer** 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** Not regulated  
**UN number** -  
**Proper shipping name:**  
**UN classification**  
**Subsidiary hazard class**  
**Packing group**  
**Marine pollutant** Not applicable

**IMDG** Not regulated  
**UN number** -  
**Proper shipping name:**  
**UN classification**  
**Subsidiary hazard class**  
**Packing group**  
**Marine pollutant (Sea)** Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

IATA Not regulated

UN number -

Proper shipping name:

UN classification

Subsidiary hazard class

Packing group

Environmentally Hazardous Substance Not applicable

## Section 15: REGULATORY INFORMATION

### Japanese regulations

Fire Service Act Not applicable

Poisonous and Deleterious Substances Control Law Not applicable

Industrial Safety and Health Act Not applicable

Industrial Safety and Health Act (2026~) 【2026.4.1~】 Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57)  
 【2026.4.1~】 Notifiable Substances (Law Art.57-2)

Regulations for the carriage and storage of dangerous goods in ship Not applicable

Civil Aeronautics Law Not applicable

Pollutant Release and Transfer Register Law (2023.4.1-) Not applicable

### Industrial Safety and Health Law

| Law Name                             | Chemical Name in Regulation | Weight % | Scheduled enforcement date |
|--------------------------------------|-----------------------------|----------|----------------------------|
| Notifiable Substances (Law Art.57-2) | 2-Hydroxysuccinic acid      | 97.0     | 2026/4/1                   |

## Section 16: OTHER INFORMATION

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

NITE: National Institute of Technology and Evaluation (JAPAN)  
[https://www.chem-info.nite.go.jp/en/chem/chrip/chrip\\_search/srhInput](https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput)  
 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

The following contents were revised. Product and company Identification. Exposure controls/personal protection. Toxicological information. Ecological information. Regulatory information.

### Disclaimer

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