

Safety Data Sheet
According to Regulation (EC) No 1907/2006

DL-Malic acid

Version 1.0

Issue date: 18/01/2018

Revision date: 18/01/2018

SDS Record Number: CSSS-TCO-010-120521

Section 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Identification on the label/Trade name: DL-Malic acid
Additional identification: Not available
Identification of the product: CAS#617-48-1;EC#210-514-9
Index Number: Not available
REACH registration No.: 01-2119552463-40-0007

1.2 Relevant identified uses of the substance and uses advised against:

1.2.1 Identified uses:

Not available

1.2.2 Uses advised against:

Not available

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative): Chemical Inspection & Regulation Service Limited
Supplier(Manufacturer): ANHUI SEALONG BIOTECHNOLOGY CO.,LTD
Address: JINCHONG RD.,NO.6,MOHEKOU IND. PARK, BENGBU 233316, ANHUI PROVINCE, CHINA
Contact person(E-mail): -
Telephone: +86-552-5876000
Fax: +86-552-5866888

1.4 Emergency telephone Number:

+353 41 980 6916

Available outside office hours? YES NO

Section 2 Hazards Identification

2.1 Classification of the substance/mixture:

2.1.1 Classification:

The substance is classified as following according to REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard codes
Eye Irrit. 2	H319

For full text of H- phrases: see section 2.2.

2.2 label elements:

Hazard Pictograms:**Signal Word(S):**

Warning

Hazard Statement:

H319: Causes serious eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313: If eye irritation persists: Get medical advice/attention.

2.3 Other hazards:

Not available.

Section 3 Composition/information on ingredients

Substance/Mixture:

Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
DL-Malic acid	N/A	617-48-1	210-514-9	100%

Section 4 First aid measures

4.1 Description of first aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration.

4.1.2 In case of skin contact:

After contact with skin, wash immediately with plenty of soap and water. Consult a physician.

4.1.3 In case of eyes contact:

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Call a physician immediately.

4.1.4 In case of ingestion:

Call a physician immediately. Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed:

Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed:

If skin irritation or rash occurs, get medical advice/attention.

Section 5 Fire-Fighting measures

5.1 Extinguishing media:**Suitable extinguishing media:**

Foam, powder, water spray.

Unsuitable extinguishing media:

Do not use water jets as they can disperse and spread fire.

5.2 Special hazards arising from the substance or mixture

In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

5.3 Advice for firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel:

Move any people not authorised to contain the emergency out of the area. Avoid coming in contact with the substance or handling containers without adequate protection. Use the personal protective equipment described in section 'Exposure controls/personal protection'. Use a respirator in the event of emissions/spillage of large quantities. Eliminate all sources of ignition. Remove all incompatible materials as outlined in section 'Stability and reactivity'. Avoid dust formation. For personal protection see section 8.

6.1.2 For emergency responders:

Wear an appropriate NIOSH/MSHA approved respirator if dust is generated.

6.2 Environmental Precautions:

Contain the spillage as far as possible. Prevent spilled materials getting into the drainage system, wells, surface water or groundwater. In the case of leaks into a water course, drains, or if the product has contaminated the ground or vegetation, contact the local authorities.

6.3 Methods for Containment and Cleaning up:

Do not use equipment that can generate sources of ignition when cleaning. Clean the spilled material mechanically and put it in an appropriate container for disposal in accordance with section 'Disposal considerations'. After collection, ventilate and clean the affected area with water before granting access. Do not flush the water used for cleaning into watercourses or down drains.

6.4 Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Section 7 Handling and storage

7.1 Precautions for safe handling:

7.1.1 Protective measures:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin and eyes. Take precautionary measures against static discharges. Avoid formation of respirable particles. For precautions see section 2.2.

7.1.2 Advice on general occupational hygiene:

Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:

Eliminate all sources of combustion. Keep container hermetically closed in a dry and well ventilated environment. Avoid the formation of dust. Keep away from incompatible materials (see section Stability and reactivity).

7.3 Specific end use(s):

Not applicable.

Section 8 Exposure Controls/Personal Protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:

Not available.

8.1.2 Additional exposure limits under the conditions of use:

Not available.

8.1.3 DNEL/DMEL and PNEC-Values:

Workers - Hazard via inhalation route- Systemic effects- Long term exposure- DNEL (Derived No Effect Level): 36.6 mg/m³

Workers - Hazard via dermal route- Systemic effects- Long term exposure- DNEL (Derived No Effect Level): 5.2 mg/kg bw/day

General Population - Hazard via inhalation route- Systemic effects- Long term

exposure- DNEL (Derived No Effect Level): 9 mg/m³
 General Population - Hazard via dermal route- Systemic effects- Long term exposure- DNEL (Derived No Effect Level): 2.6 mg/kg bw/day
 General Population - Hazard via oral route- Systemic effects- Long term exposure- DNEL (Derived No Effect Level): 2.6 mg/kg bw/day
 Hazard for aquatic organisms- PNEC aqua (freshwater): 0.1 mg/L
 Hazard for aquatic organisms- PNEC aqua (marine water): 0.01 mg/L
 Hazard for aquatic organisms- PNEC aqua (intermittent releases): 1 mg/L
 Hazard for aquatic organisms- PNEC STP: 3 mg/L
 Hazard for aquatic organisms- PNEC sediment (freshwater): 87 µg/kg sediment dw
 Hazard for aquatic organisms- PNEC sediment (marine water): 8.7 µg/kg sediment dw
 Hazard for terrestrial organisms- PNEC soil: 87 µg/kg soil dw

8.2 Exposure controls:

- 8.2.1 Appropriate engineering controls:** Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- 8.2.2 Individual protection measures, such as personal protective equipment:**
- Eye/face protection:** Goggles or protective visor.
 - Hand protection:** Wear protective gloves.
 - Body protection:** Wear protective clothing resistant to chemical substances.
 - Respiratory protection:** Mask with P3 dust filter if solid or type A filter for vapors and organic gases with a boiling point > 65°C if molten. (EN 149).
 - Thermal hazards:** Wear suitable protective clothing to prevent heat.
- 8.2.3 Environmental exposure controls:** Avoid discharge into the environment.
According to local regulations, Federal and official regulations.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Crystalline powder
Colour:	White
Odour:	Odorless
Odour threshold:	Not available
pH:	Not available
Melting point/range (°C):	130.97 °C
Boiling point/range (°C):	Not available
Flash point (°C):	Not available
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Non flammable
Ignition temperature (°C):	Not available
Upper/lower flammability/explosive limits:	Not available
Vapour pressure (38°C):	Not available
Vapour density:	Not available
Density:	1 615.1 kg/m ³ (20 °C)
Bulk density (kg/m³):	Not available

Water solubility (g/l):	Very soluble(646.6 g/L)
n-Octanol/Water (log Po/w):	log Pow=-1.26
Auto-ignition temperature:	Not available
Decomposition temperature:	> 225 - < 235 °C
Viscosity, dynamic (mPa.s):	Not available
Explosive properties:	Not available
Oxidising properties:	Not available
Molecular Formula:	C ₄ H ₆ O ₅
Molecular Weight:	134.09

9.2. Other information:

Fat solubility(solvent– oil to be specified) etc:	Not available
Surface tension:	Not available
Dissociation constant in water(pKa):	pKa1 = 3.51 and pKa2 = 5.03.
Oxidation-reduction Potential:	Not available
Specific gravity:	Not available

Section 10 Stability and reactivity

10.1 Reactivity:	The substance is stable under normal storage and handling conditions.
10.2 Chemical stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
10.3 Possibility of hazardous reactions:	No dangerous reactions known.
10.4 Conditions to avoid:	Incompatible materials. Avoid the build-up of electrostatic charges. Avoid exposure to heat sources. Avoid the formation of dust.
10.5 Incompatible materials:	Oxidizing agents, alkalis, alkali metals, amines and carbonates.
10.6 Hazardous decomposition products:	Toxic fumes of carbon dioxide / carbon monoxide.

Section 11 Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:	
LD50(Oral, Rat):	3500 mg/kg bw
LD50(Dermal, Rabbit):	> 20000 mg/kg bw
LC50(Inhalation, Rat):	> 1.306 mg/L air (analytical) 4h
Skin corrosion/Irritation:	Not classified
Serious eye damage/irritation:	Causes serious eye irritation.
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT- single exposure:	Not classified
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

Section 12 Ecological information

12.1 Toxicity:

Acute toxicity	Time	Species	Method	Evaluation	Remarks
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LC50	> 100 mg/L	96h	Fish	OECD 203	N/A	N/A
EC50	N/A	48h	Daphnia	OECD 202	N/A	N/A
EC50	> 100 mg/L	72h	Algae	OECD 201	N/A	N/A

- 12.2 Persistence and degradability:** Not available.
- 12.3 Bioaccumulative potential:** Not available.
- 12.4 Mobility in soil:** Not available.
- 12.5 Results of PBT&vPvB assessment:** The substance is not PBT / vPvB.
- 12.6 Other adverse effects:** Not available.

Section 13 Disposal considerations

- 13.1 Waste treatment methods:** The material should be disposed of by incineration in a chemical incinerator in compliance with national and regional requirements.

Section 14 Transport information

	Land transport(ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	Not regulated	Not regulated	Not regulated
UN Proper shipping name	Not regulated	Not regulated	Not regulated
Transport hazard Class	Not regulated	Not regulated	Not regulated
Packaging group	Not regulated	Not regulated	Not regulated
Environmental hazards	No	No	No
Special precautions for user	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to Annex II of Marpol and the IBC Code	Not regulated	Not regulated	Not regulated

Section 15 Regulation information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

- Relevant information regarding authorization:** Not applicable.
- Relevant information regarding restriction:** Not applicable.
- Other EU regulations:** Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.
- Other National regulations:** Not applicable

15.2 Chemical Safety Assessment has been carried out? YES NO

Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2015/830

16.2 Training instructions:

Not applicable.

16.3 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.4 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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