

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006



(L-Malic Acid, Organic Compliant & NGPV)

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

1.1 Product identifier:

Identification on the label/Trade name: NuMalic® (L-Malic Acid, Organic Compliant & NGPV)
 Additional identification: L-Hydroxysuccinic acid
 Identification of the product: CAS# 97-67-6; EC# 202-601-5
 Index Number: Not available
 REACH registration No.: Not available

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

1.2.1 Identified uses:

As an acidulant, NuMalic® (L-Malic Acid, Organic Compliant & NGPV) is especially suitable for jelly and foodstuff containing fruit ingredient. It can maintain the natural color of juice.

1.2.2 Uses advised against:

Not available.

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative): -
 Supplier(Manufacturer): NutriScience Innovations, LLC
 Address: 130 Old Gate Lane, Unit C, Milford CT 06460, U.S.A
 Contact person(E-mail): sales@nutriscienceusa.com
 Telephone: + 203-372-8877
 Fax: + 203-372-9977

1.4 Emergency telephone Number:

+ 203-372-8877

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 statement
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 applicable.

Section 3 Composition/information on ingredients

Substance/Mixture:

Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
L-malic acid	N/A	97-67-6	202-601-5	≥99.0%

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 not breathing, give artificial respiration. Oxygen may additionally be given, by trained personnel, if it is available. Get medical attention if symptoms occur.

4.1.2 In case of skin contact:

Wash off thoroughly with plenty of water. If irritation develops, seek medical attention.

4.1.3 In case of eyes contact:

Wash affected eyes for at least 15 minutes under running water with eyelids held open. Seek medical attention.

4.1.4 In case of ingestion:

Rinse mouth immediately and then drink plenty of water. If large quantities of this material are swallowed, call a physician immediately.

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:

Small fire: Use dry chemical powder. Large fire: Use water spray, fog or foam

Unsuitable extinguishing media:

Do not use water jet.

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released: carbon monoxide, carbon dioxide. Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

5.3 Advice for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand. MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel: Remove ignition sources. Provide adequate ventilation. Avoid inhalation dust. Avoid skin and eye contact. 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: Do not allow material to be released to the environment without proper governmental permits.

6.3 Methods for Containment and Cleaning up: Clean up spills immediately, using the appropriate protective equipment. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation. Clean up affected area.

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: Use personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust. Provide appropriate exhaust ventilation at places where dust is formed. Wash hands thoroughly after handling.

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: Kept airtightly in a light-proof, dry and cool place. Store away from incompatible materials such as oxidizing agents.

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: Not available.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection: Safety glasses.

Hand protection: Handle with gloves. Type of gloves recommended: Nitrile rubber.
Minimum breakthrough time /gloves: 480 min.

Glove thickness: 0.11mm.

Body protection:	Protective clothing. Protective boots, if the situation requires.
Respiratory protection:	Dust respirator.
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:	Crystals or crystalline powder
Color:	White
Odor:	Odorless
Odor threshold:	Not available
pH:	Not available
Melting point/range (°C):	101-103°C
Boiling point/range (°C):	Not available
Flash point (°C):	Closed cup: Higher than 93.3°C (200°F).
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 (20°C):	Not available
Vapour density:	Not available
Relative Density:	Not available
Bulk density (kg/m ³):	Not available
Water solubility (g/l):	36.35 g/100 g
n-Octanol/Water (log Po/w):	Not available
Auto-ignition temperature:	349°C (660.2°F)
Decomposition temperature:	140°C (284°F)
Viscosity, dynamic (mPa.s):	Not available
Explosive Properties:	Not available
Oxidizing 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)	Not available
etc:	
Surface tension:	Not available
Dissociation constant in water(pKa):	Not available
Oxidation-reduction Potential:	Not available
Specific gravity:	1.601 (Water = 1)
Specific Rotation:	-1.6°~ -2.6°
Sulfate:	0.02% Max

Chloride[Cl] :	0.004% Max
Arsenic [as As] :	2mg/kg Max
Heavy Metals(as Pb) :	10mg/kg Max
Lead:	2mg/kg Max
Residue on ignition:	0.10% Max
Clarity test:	Qualified
Fumaric Acid:	0.5% Max
Maleic Acid:	0.05% Max

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. Dust generation, excess heat.
10.5 Incompatible materials:	Reactive with oxidizing agents, reducing agents, alkalis.
10.6 Hazardous decomposition products:	Carbon monoxide, carbon dioxide.

Section 11 Toxicological information

11.1 Information on toxicological effects:	
Acute toxicity:	Not available
LD50(Oral, Rat):	Not available
LD50(Dermal, Rabbit):	Not available
LC50(Inhalation, Rat):	Not classified
Skin corrosion/Irritation:	
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
LC50	N/A	96h	Fish	OECD 203	N/A	N/A
EC50	N/A	48h	Daphnia	OECD 202	N/A	N/A
EC50	N/A	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: Not available.

12.6 Other adverse effects: Not available.

Section 13 Disposal considerations

13.1 Waste treatment methods: Due to the high risk of contamination recycling/recovery is not recommended. Waste disposal in accordance with regulations (most probably controlled incineration).

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.

Revision Date: 07-21-2020
Review Date: November 2022