



SAFETY DATA SHEET

DL-Malic Acid 99+%, food grade, E296

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name:	DL-Malic Acid 99+%, food grade, E296
Product no.:	MA45
Other means of identification:	EC No.: 230-022-8 CAS No.: 6915-15-7

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the substance or mixture:	Preservation agent, Industrial purposes, Laboratory use, Additive
Uses advised against:	None known.

1.3. Details of the supplier of the safety data sheet

Company and address:	Laboratoriumdiscounter Zandvoortstraat 75 1976BN IJmuiden Netherlands Tel: +31 255 700 210 www.laboratoriumdiscounter.nl/en/
E-mail:	info@laboratoriumdiscounter.nl
Revision:	08/03/2023
SDS Version:	1.0

1.4. Emergency telephone number

Contact The National Poisons Information Service (dial 111, 24 h service).
See section 4 "First aid measures".

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Eye Irrit. 2; H319, Causes serious eye irritation.

2.2. Label elements

Hazard pictogram(s):



Signal word:

Warning

Hazard statement(s):

Causes serious eye irritation. (H319)

Safety statement(s):

General:

If medical advice is needed, have product container or label at hand. (P101)



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Prevention:

Keep out of reach of children. (P102)
Wash hands thoroughly after handling. (P264)

Response:

Wear eye protection/protective gloves/protective clothing. (P280)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)
If eye irritation persists: Get medical advice/attention. (P337+P313)

Storage:

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Disposal:

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Hazardous substances:

None known.

Additional labelling:

Not applicable.

2.3. Other hazards

Additional warnings:

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.
This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Product/substance	Identifiers	% w/w	Classification	Note
Malic acid	CAS No.: 6915-15-7 EC No.: 230-022-8 UK-REACH: Index No.:	95-100%	Eye Irrit. 2, H319	

3.2. Mixtures

Not applicable. This product is a substance.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

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SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information:

In the case of accident: Contact a doctor or



	casualty department – take the label or this safety data sheet. Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.
<i>Inhalation:</i>	Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.
<i>Skin contact:</i>	Upon irritation: rinse with water. In the event of continued irritation, seek medical assistance.
<i>Eye contact:</i>	Upon irritation of the eye: Remove contact lenses. Flush eyes immediately with plenty of water or isotonic water (20-30 °C) for at least 5 minutes and continue until irritation stops. Make sure to flush under upper and lower eyelids. If irritation continues, contact a doctor. Continue flushing during transport.
<i>Ingestion:</i>	If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink. In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.
<i>Burns:</i>	Not applicable.
4.2. Most important symptoms and effects, both acute and delayed	
Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.	
4.3. Indication of any immediate medical attention and special treatment needed	
If eye irritation persists: Get medical advice/attention.	
<i>Information to medics:</i>	Bring this safety data sheet or the label from this product.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.
Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.
If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:



Carbon oxides (CO / CO₂)

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

No specific requirements.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.

6.3. Methods and material for containment and cleaning up

Limit spillage and collect using granular absorbent or similar materials, and dispose of it in accordance with the regulations on dangerous waste.

Minor spills are collected with a cloth. Collection and disposal of the material shall be done with minimum creation of dust. Sweep and collect. Shall be contained in suitable and tightly closed disposal containers.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Recommended storage material:

Keep only in original packaging.

Storage temperature:

Room temperature 15 to 25°C

Incompatible materials:

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

No substances are listed in the national list of substances with an occupational exposure limit.

DNEL

Malic acid

Duration:	Route of exposure:	DNEL:
Long term – Systemic effects - General population	Dermal	2.6 mg/kg bw/day
Long term – Systemic effects - Workers	Dermal	5.2 mg/kg bw/day



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Long term – Systemic effects - General population	Inhalation	9 mg/m ³
Long term – Systemic effects - Workers	Inhalation	36.6 mg/m ³
Long term – Systemic effects - General population	Oral	2.6 mg/kg bw/day

PNEC

No data available.

8.2. Exposure controls

Control is unnecessary if the product is used as intended.

General recommendations:

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios:

There are no exposure scenarios implemented for this product.

Exposure limits:

Occupational exposure limits have not been defined for the substances in this product.

Appropriate technical measures:

Apply standard precautions during use of the product. Avoid inhalation of gas or dust.

Hygiene measures:

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Always wash hands, forearms and face.

Measures to avoid environmental exposure:

No specific requirements.

Individual protection measures, such as personal protective equipment

Generally:

Use only UKCA marked protective equipment.

Respiratory Equipment:

Type	Class	Colour	Standards	
S/SL	P1	White	EN149	

Skin protection:

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

Hand protection:

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0,2	> 480	EN374-2, EN374-3, EN388	

Eye protection:

Type	Standards	
Safety glasses with side shields.	EN166	



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<i>Physical state:</i>	Solid
<i>Colour:</i>	White
<i>Odour / Odour threshold:</i>	Characteristic
<i>pH:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Density (g/cm³):</i>	1.601 (25 °C)
<i>Kinematic viscosity:</i>	Does not apply to solids.
<i>Particle characteristics:</i>	Testing not relevant or not possible due to the nature of the product.

Phase changes

<i>Melting point/Freezing point (°C):</i>	131 – 132
<i>Softening point/range (waxes and pastes) (°C):</i>	Does not apply to solids.
<i>Boiling point (°C):</i>	150
<i>Vapour pressure:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Relative vapour density:</i>	Does not apply to solids.
<i>Decomposition temperature (°C):</i>	150

Data on fire and explosion hazards

<i>Flash point (°C):</i>	203
<i>Flammability (°C):</i>	this material is flammable, but will not catch fire easily
<i>Auto-ignition temperature (°C):</i>	150
<i>Lower and upper explosion limit (% v/v):</i>	Does not apply to solids.

Solubility

<i>Solubility in water:</i>	646,6 g /l
<i>n-octanol/water coefficient:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Solubility in fat (g/L):</i>	Testing not relevant or not possible due to the nature of the product.

9.2. Other information

<i>Other physical and chemical parameters:</i>	No data available.
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SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".



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10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. Hazardous decomposition products

The product is not degraded when used as specified in section 1.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 as retained and amended in UK law

Acute toxicity

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Skin sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Long term effects

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

Endocrine disrupting properties

Not applicable.

Other information

None known.



SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

No data available.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

12.6. Endocrine disrupting properties

Not applicable.

12.7. Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product is covered by the regulations on hazardous waste.

HP 4 - Irritant (skin irritation and eye damage)

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

Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

EWC code

Not applicable.

Specific labelling

Not applicable.

Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: TRANSPORT INFORMATION

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
ADR	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

* Packing group

** Environmental hazards

Additional information



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Not dangerous goods according to ADR, IATA and IMDG.

14.6. Special precautions for user

Not applicable.

14.7. Maritime transport in bulk according to IMO instruments

No data available.

SECTION 15: REGULATORY INFORMATION

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

Restrictions for application:

No special.

Demands for specific education:

No specific requirements.

SEVESO - Categories / dangerous substances:

Not applicable.

Additional information:

Not applicable.

Sources:

Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.
Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law.
Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as retained and amended in UK law.

15.2. Chemical safety assessment

No

SECTION 16: OTHER INFORMATION

Full text of H-phrases as mentioned in section 3

H319, Causes serious eye irritation.

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CE = Conformité Européenne
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario



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EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer (IARC)
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SCL = A specific concentration limit
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Additional information

The classification of the substance/mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

The safety data sheet is validated by

Laboratoriumdiscounter

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product.

Information in this safety data sheet cannot be used as a product specification.

Country-language: GB-en