

Section 1. Identification**1.1 Product Identifier** 1223

Product Name	DL-MALIC ACID pure
CAS Number	617-48-1
REACH Registration No	A registration number is not available as the substance or its uses are exempt, the annual tonnage does not require a registration or the registration is envisaged for a later date.
Molecular Formula	$\text{HOOCCH}(\text{OH})\text{CH}_2\text{COOH}$ =134.09

1.2 Relevant identified uses of the substance or mixture & uses advised against

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

1.3 Supplier Vickers Laboratories Ltd

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(Have this document to hand)**Section 2. Hazards Identification****2.1 Classification of the substance or mixture****Classification according to regulation 1272/2008/EC**

Acute toxicity, category 4 (oral)	H302: Harmful if swallowed.
Skin corrosion/irritation, category 2	H315: Causes skin irritation.
Serious eye damage/irritation, category 1	H318: Causes serious eye damage.
Spec target organ tox - single, category 3	H335: May cause respiratory irritation.

2.2 Label elements**Labelling according to regulation 1272/2008/EC**

Signal word Danger

Hazard Pictograms



Hazard Statements Causes serious eye damage. Harmful if swallowed. Causes skin irritation. May cause respiratory irritation.

Precautionary Statements Do not breathe dust. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. IF ON SKIN: Wash with plenty of soap and water. Do not eat, drink or smoke when using this product. Wear protective gloves / protective clothing / eye protection.

Section 3. Composition

3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
DL-malic acid	617-48-1	210-514-9		>98%	Acute Tox. 4 (O),Skin Irrit. 2,Eye Dam. 1,STOT SE 3 (I)

Section 4. First Aid

4.1 Description of first aid measures

Eyes	Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. If discomfort persists OBTAIN MEDICAL ATTENTION.
Skin	Wash off skin thoroughly with water.
Inhalation	Remove from exposure.
Ingestion	Wash out the patients mouth thoroughly with water. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.
Personal protection for first aiders	Wear protective gloves / eye protection.

4.2 Most important symptoms and effects, both acute & delayed.

No further relevant information available.

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

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media	Water spray, foam, dry powder or carbon dioxide.
Unsuitable Media	Nothing specified.

5.2 Special hazards arising from the substance or mixture

Hazards	Can form explosive dust clouds.
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5.3 Advice for firefighters

Advice for firefighters	Consider all other materials in the vicinity.
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Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection	Avoid breathing dust-wear respiratory protective equipment.
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6.2 Environmental precautions

Environmental	Presents no major environmental hazard.
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6.3 Methods and material for containment and cleaning up

Major Spillage Shovel/sweep up into container for removal Wash area down with detergent and copious amounts of water.
Minor Spillage Wash area down with copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breath dust. Do not allow to contaminate clothing.
Ensure Local Exhaust Ventilation maintains dust concentrations to a minimum.

7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage .

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits	
			Long Term (8hr TWA)	Short Term 15min period
DL-malic acid	617-48-1	>98%	-	-

Exposure data source(s) No occupational exposure data currently available.

8.2 Exposure controls

Respiratory Protection If process creates significant amounts of dust use L.E.V. or wear suitable dust mask.
Hand Protection Wear gloves.
Eye Protection Use tightly fitting chemical splash proof glasses or goggles.
Skin Protection Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.
Special Hazards No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance White powder.
Odour No specific odour.
pH Not applicable
Boiling Point Not available
Melting Point 129°C
Flash Point Not applicable
Upper Flammable Limit Not applicable
Lower Flammable Limit Not applicable
Auto Ignition Not applicable
Explosive Properties Can form explosive dust clouds.
Oxidising Properties No.
Vapour Pressure Not applicable
Relative Density Not available
Water Solubility Very soluble in water.

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1	Reactivity	No data available.
10.2	Chemical Stability	Stable under normal conditions
10.3	Possibility of hazardous reactions	No data available.
10.4	Conditions to Avoid	No specific conditions.
10.5	Incompatible Materials	No specific materials to avoid.
10.6	Hazardous Decomposition Products	Burning will produce smoke, carbon monoxide and/or carbon dioxide.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	Contact with the solid or dust will be irritating to the eyes. Causes serious eye damage.
Skin	Contact with the solid or dust will be irritating to the skin.
LD50 Skin	Not available
Ingestion	Harmful if swallowed.
LD50 Oral	1600mg/kg Rat
Inhalation	Inhalation of dust may produce irritation of the eyes, nose, throat and respiratory tract.
LD50 Inhalation	Not available
TCLo	Not available
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	None identified.

Section 12. Ecological

12.1	Toxicity	Small amounts present no specific environmental hazard.
	LC50 Algal	Not available
	LC50 Crustacea	Not available
	LC50 Fish	Not 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 & vPvB assessment	Assessment not required.
12.6	Other adverse effects	None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods	Do not dispose of as domestic waste. Dispose of to a licensed land fill site.
Contaminated Packaging	Wash out containers with water. Use a licensed waste disposer.

Section 14. Transport Information

14.1 UN Number	Non-restricted
14.2 Proper Shipping Name	Non-restricted
14.3 Transport classes	
UN classification	None
Subsidiary hazard(s)	None
Transport category	None
ADR Hazard ID	Non-restricted
Tunnel Restriction Code	Non-restricted
14.4 Packing Group	None
14.5 Environment hazards	See section 12.
14.6 Special precautions for user	No special precautions required.
14.7 Transport in bulk	Not transported in bulk.

Section 15. Regulatory Information

15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Acute toxicity, category 4 (oral); Skin corrosion/irritation, category 2; Serious eye damage/irritation, category 1; Spec target organ tox - single, category 3

Signal word Danger

Hazard Pictograms



Hazard Statements H318, H302, H315, H335
Causes serious eye damage. Harmful if swallowed. Causes skin irritation. May cause respiratory irritation.

Precautionary Statements P260, P305+P351+P338, P302+P352, P270, P280
Do not breathe dust. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. IF ON SKIN: Wash with plenty of soap and water. Do not eat, drink or smoke when using this product. Wear protective gloves / protective clothing / eye protection.

15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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