

TRULUX SAFETY DATA SHEET

Provides critical information on hazardous substances or mixtures.

1.1 COMPANY IDENTIFICATION

Company's name:	Trulux Pty Ltd
Email address:	info@trulux.com.au
Website:	www.trulux.com.au
Contact number:	+61 2 5566 0566

1.2 PRODUCT IDENTIFICATION

Trade name:	Malic Acid
SKU:	RMTR-0656A
Classification:	Refer to clause 2

1.3 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified uses:	Raw Material
Uses advised against:	No further information available.

1.4 DETAILS OF THE SUPPLIER OF THE SUBSTANCE INFORMATION SHEET

Supplier's name:	Trulux Pty Ltd
Website:	www.trulux.com.au
Address:	C3/ 1-3 Rodborough Road, Frenchs Forest NSW 2086 Australia

Trade Name: Malic Acid
Trulux SKU RMTR-0656A
Doc: RMSDS - Malic Acid

Issue date: 20/01/2022
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1.5 EMERGENCY CONTACTS - INSTITUTIONAL CENTRES

Australia

Poisons Information Centre 13 11 26

2 HAZARDS IDENTIFICATION

Poisons Schedule (Aust): Not Scheduled.

Globally Harmonised System

Hazard Classification: Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories: Serious Eye Damage/Irritation - Category 2A

Pictograms:



Signal Word: Warning

Hazard Statements: H319 Causes serious eye irritation.

Precautionary Statements - Prevention: P280 Wear eye protection/face protection.
P264 Wash hands and face thoroughly after handling

Precautionary Statements - Response: 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.

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National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification:

NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code).

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications

Health Hazards	6.1D	Substances that are acutely toxic - Harmful
	6.3A	Substances that are irritating to the skin
	6.4A	Substances that are irritating to the eye
Environmental Hazards	9.3C	Substances that are harmful to terrestrial vertebrates

3 COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Entity	Formula	CAS Number	Concentration (%)
Malic acid	C ₄ H ₆ O ₅	6915-15-7	≤ 100

4 FIRST AID MEASURES

Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.

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Ingestion:	Rinse mouth, then drink plenty of water. Do not induce vomiting. Call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.
Skin contact:	Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice / attention.
Eye contact:	Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Advice to Doctor:	Treat symptomatically.

5 FIRE FIGHTING MEASURES

General Measures:	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions:	May burn but does not ignite readily.
Suitable extinguishing media:	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction - Do not use water jets as they can disperse and spread fire.
Fire and Explosion Hazard:	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

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Hazardous Combustion Products:	Fire may produce irritating, toxic and/or corrosive fumes, including Carbon oxides.
Special Fire Fighting Instructions:	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment:	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
Lower Explosion Limit:	187.5 g/m ³

6 ACCIDENTAL RELEASE MEASURES

General Response Procedure:	Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures:	Clean the spilled material mechanically and put it in an appropriate container for disposal (see SECTION 13). Do not use equipment that can generate sources of ignition when cleaning.
Containment:	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination:	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.
Environmental Precautionary Measures:	Prevent spilled materials getting into the drainage system, surface water or groundwater. In the case of leaks into a water course,

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	drains, or if the product has contaminated the ground or vegetation, contact the local authorities.
Evacuation Criteria:	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures:	Use personal protective equipment as required (see SECTION 8). Use a respirator in the event of emissions/spillage of large quantities.

7 HANDLING AND STORAGE

Handling:

Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Storage

Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container hermetically closed. Keep away from heat and sources of ignition - No smoking. Avoid the build-up of electrostatic charges. Keep away from food/feedstuffs and incompatible materials (see SECTION 10).

Container

Keep in the original or suitable container.

- Unsuitable container materials: Iron, zinc, aluminum.

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8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

General

No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards:

- Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m³ (measured as inhalable dust).
- New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m³; TWA = 3 mg/m³ (respirable dust).

Engineering Measures

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Protection Equipment

- | | |
|--------------------------|---|
| • Respiratory Protection | In case of inadequate ventilation, wear respiratory protection.
Recommended: Dust mask/particulate filter respirator, if solid;
Organic vapour/particulate filter respirator, if heated/molten (refer to AS/NZS 1715 & 1716). |
| • Skin / Body Protection | Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes. |
| • Hand Protection | Handle with gloves. Recommended: Impervious gloves. |
| • Eye / Face Protection | Wear appropriate eye protection to avoid eye contact.
Recommended: Chemical goggles. |

Work Hygienic Practices

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Do not eat, drink or smoke when using this product. Wash face and hands thoroughly after handling. Take off contaminated clothing and wash before reuse. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Appearance:	Crystalline powder
Odour:	Characteristic
Colour:	White
Vapour Pressure:	0.00039 Pa (@ 25 °C)
Melting Point:	131 °C
Solubility:	647 g/l in water 20°C
Specific Gravity:	1.615
Decomposition Temperature:	170 - 180 °C
Octanol Water Coefficient:	-6.14 (20 °C)
Particle Size:	≤ 70 µm

Potential for Dust Explosion

Minimum Ignition Energy (MIE):

- Without inductance (Electrostatic) (<25 µH): >1,000 mJ
- With inductance (Mechanical) (1mH): 80 - 100 mJ

Explosion severity (20 litre sphere):

- Maximum explosion pressure P_{max}: 6.4 barg at 2,375 g/m³
- (dP/dt) max: 256 bar/s at 2,167 g/m³
- K_{st} value: 69 bar.m/s
- St class: 1
- Ambient Temperature: 20 °C

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Properties That May Initiate or Contribute to Fire Intensity

May burn but does not ignite readily.

Reactions That Release Gases or Vapours

Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including Carbon oxides.

Release of Invisible Flammable Vapours and Gases

Aqueous solutions of Malic acid can release explosive hydrogen gas if in contact with active metals (iron, zinc aluminium, etc).

10 STABILITY AND REACTIVITY

General Information:

Aqueous solutions of Malic acid can release explosive hydrogen gas if in contact with active metals (iron, zinc, aluminium, etc).

Chemical Stability:

Stable under normal conditions.

Conditions to Avoid:

Avoid generating dust. Keep away from heat and sources of ignition.

Incompatible Materials:

Incompatible/reactive with oxidising agents, reducing agents, alkalis, alkali metals, amines and carbonates.

Hazardous Decomposition Products:

Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including Carbon oxides.

Hazardous Polymerisation:

Hazardous polymerisation will not occur.

11 TOXICOLOGICAL INFORMATION

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Acute toxicity:	Not classified. May be harmful if swallowed.
Skin corrosion/irritation:	Slightly irritating to skin.
Eye damage/irritation:	Causes serious eye irritation.
Respiratory/skin sensitisation:	Not sensitising [Read-across from supporting substance].
Germ cell mutagenicity:	Negative [Ames test; gene mutation; chromosome aberration].
Reproductive toxicity:	Not classified.
STOT (repeated exposure):	Not classified.

Acute

Ingestion:	Acute toxicity (Oral): - LD50, Rat: 3,500 mg/kg bw. [Supplier's SDS].
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Carcinogen Category

None.

12 ECOLOGICAL INFORMATION

Ecotoxicity - Aquatic toxicity:

- LC50, Fish (Danio rerio): >100 mg/L test mat. (nominal) freshwater; semi-static [OECD Guideline 203].
- EC/LC50, Crustacea (Daphnia sp.): 240 mg/L test mat. (immobilisation/mortality) freshwater; static [OECD Guideline 202].

Persistence / Degradability

Readily biodegradable [OECD Guideline 301C].

- 73 % after 14 d (O2 consumption) [BOD]
- 99 % after 14 d (TOC removal) [TOC]
- 100 % after 14 d (Test mat. analysis) [HPLC]

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Mobility

The substance has a low potential for adsorption based on a log Kow of - 1.26.

Environmental Fate

Prevent entry into drains and waterways.

Bioaccumulation Potential

Data indicate that the substance is not bioaccumulative (weight of evidence).

- Bioaccumulation: Log Pow = 1.26

- Aquatic environment: BCF = 1 L/kg (whole body w/w).

13 DISPOSAL CONSIDERATIONS

General Information:

Dispose of contents/container in accordance with local / regional / national regulations. Recycle if possible, or send to an authorised incinerator.

14 TRANSPORT INFORMATION

Land Transport (Australia) - ADG Code

Proper Shipping Name:	MALIC ACID
Class:	No Data Available.
Subsidiary Risk(s):	No Data Available.
UN Number:	No Data Available.
Hazchem:	No Data Available.
Pack Group:	No Data Available.
Special Provision:	No Data Available.
Comments:	NON-DANGEROUS GOODS: Not regulated for LAND transport.

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Land Transport (Malaysia) - ADR Code

Proper Shipping Name:	Malic acid.
Class:	No Data Available.
Subsidiary Risk(s):	No Data Available.
UN Number:	No Data Available.
Hazchem:	No Data Available.
Pack Group:	No Data Available.
Special Provision:	No Data Available.
Comments:	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand) - NZS5433

Proper Shipping Name:	Malic acid
Class:	No Data Available.
Subsidiary Risk(s):	No Data Available.
UN Number:	No Data Available.
Hazchem:	No Data Available.
Pack Group:	No Data Available.
Special Provision:	No Data Available.
Comments:	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America) - US DOT

Proper Shipping Name:	Malic acid
Class:	No Data Available.
Subsidiary Risk(s):	No Data Available.
UN Number:	No Data Available.
Hazchem:	No Data Available.
Pack Group:	No Data Available.
Special Provision:	No Data Available.
Comments:	NON-DANGEROUS GOODS: Not regulated for LAND transport.

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Sea Transport - IMDG Code

Proper Shipping Name:	Malic acid
Class:	No Data Available.
Subsidiary Risk(s):	No Data Available.
UN Number:	No Data Available.
Hazchem:	No Data Available.
Pack Group:	No Data Available.
Special Provision:	No Data Available.
EMS:	No Data Available.
Marine Pollutant:	No.
Comments:	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport - IATA DGR

Class:	No Data Available.
Subsidiary Risk(s):	No Data Available.
UN Number:	No Data Available.
Hazchem:	No Data Available.
Pack Group:	No Data Available.
Special Provision:	No Data Available.
Comments:	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification:	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code).
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15 REGULATORY AND OTHER INFORMATION

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

Poisons Schedule (Aust): Not Scheduled.

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code HSR003278

National/Regional Inventories

Australia (AICS): Listed

Europe (EINECS): 230-022-8

Europe (REACH): 01-2119906954-31-0000

New Zealand (NZIoC): Listed

16 OTHER INFORMATION

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition or other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. This sheet completes the technical sheets but it does not replace them. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied is made and Trulux Pty Ltd assumes no legal responsibility or liability whatsoever resulting from its use. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. This listing must not be considered exhaustive. It does exonerate the user from ensuring that other legal obligations than those mentioned do not exist, relating to the use and storage of the product for which he solely is responsible. The information and recommendations contained herein are to the best of the manufacturer's knowledge and belief accurate and reliable as of the date indicated. No representation warranty or guarantee, however, is made with regard to accuracy, reliability or completeness. Conditions of use of the material are under the control of the user; therefore, it is the user's responsibility to satisfy itself as to the suitability and completeness of such information for its own particular use.

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