

# SAFETY DATA SHEET



Revision date: 16-Nov-2022

Revision Number 6

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### Product identifier

**Product Name** DL-MALIC ACID

**Product Code(s)** 000000034351

### Other means of identification

**Pure substance/mixture** Substance

### Recommended use of the chemical and restrictions on use

**Recommended use** Food flavour.

**Uses advised against** No information available.

### Supplier

Ixom Operations Pty Ltd (Bronson & Jacobs division) - incorporated in Australia  
ABN:51 600 546 512  
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Villawood NSW 2163  
Australia

Telephone Number: +61 2 8717 2929

Facsimile: +61 2 9755 9611

### Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

### GHS Classification

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

**Serious eye damage/eye irritation**

Category 2

### **SIGNAL WORD**

Warning

**Label elements**

Exclamation mark

**Hazard statements**

H319 - Causes serious eye irritation

**Precautionary Statements - Prevention**

Wash hands and face thoroughly after handling

Wear eye/face protection

**Precautionary Statements - Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

**Precautionary Statements - Storage**

No storage statements

**Precautionary Statements - Disposal**

No disposal statements.

**Other hazards which do not result in classification**

May form combustible dust concentrations in air

**General Hazards**

Dust can form an explosive mixture with air

**Poisons Schedule (SUSMP)**

None allocated

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Chemical name	CAS No.	Weight-%
Malic acid	6915-15-7	100

**4. FIRST AID MEASURES****Description of first aid measures****General advice**

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

**Inhalation**

Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops and persists.

**Skin contact**

Wash skin with soap and water. Get medical attention if irritation develops and persists.

**Ingestion**

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Get medical attention if symptoms occur.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Irritation. May cause redness and tearing of the eyes.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**5. FIRE FIGHTING MEASURES****Suitable Extinguishing Media**

**Suitable Extinguishing Media** Water spray. Foam. Dry chemical. Carbon dioxide (CO2).

**Unsuitable extinguishing media** High volume water jet.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** Combustible solid. On burning will emit toxic fumes, including those of oxides of carbon. Dust can form an explosive mixture with air. Avoid generation of dust.

**Hazardous combustion products** Oxides of carbon.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin, eyes, and clothing. Avoid breathing dust or spray mist. Ensure adequate ventilation. Do not touch or walk through spilled material. Keep people away from and upwind of spill/leak. Avoid generation of dust. Evacuate personnel to safe areas. Wash thoroughly after handling. Use personal protective equipment as required.

**Other information** Ventilate the area.

**For emergency responders** Shut off ignition sources. Clear area of all unprotected personnel. Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up**

**Methods for containment** Stop leak if you can do it without risk. Remove ignition sources. Provide adequate ventilation. Soak up condensate with inert absorbent material and collect in ventilated waste container for disposal.

**Methods for cleaning up** Cover with damp absorbent (inert material, sand or soil). Vacuum or sweep material and place in a disposal container. Use non-sparking tools. Avoid generation of dust. Use personal protective equipment as required. Pick up and transfer to properly labelled containers.

**7. HANDLING AND STORAGE**

**Precautions for safe handling****Advice on safe handling**

Avoid contact with skin, eyes, and clothing. Avoid breathing dust or spray mist. Avoid generation of dust. May form flammable dust clouds in air. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use personal protection equipment. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice.

**General hygiene considerations**

Regular cleaning of equipment, work area and clothing is recommended. Wash hands and face before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection.

**Conditions for safe storage, including any incompatibilities****Storage Conditions**

Keep containers tightly closed in a cool, well-ventilated place. Protect from sunlight. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10. Keep container closed when not in use.

**Incompatible materials**

Oxidizing agents. Alkalis.

**Poisons Schedule (SUSMP)**

None allocated

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters****Exposure Limits**

No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for particulates:

Dusts not otherwise classified: 8hr TWA = 10 mg/m<sup>3</sup>

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

**Appropriate engineering controls****Engineering controls**

Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

**Individual protection measures, such as personal protective equipment**

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.



**Eye/face protection**

Goggles.

**Skin and body protection**

Wear suitable protective clothing. Boots. Overalls.

**Hand protection**

Impervious gloves.

**Respiratory protection**

If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

**Environmental exposure controls**

No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	Powder
<b>Color</b>	White
<b>Odor</b>	Sour
<b>Odor threshold</b>	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	No data available	None known
<b>pH (as aqueous solution)</b>	No data available	None known
<b>Melting point / freezing point</b>	131-132 °C	None known
<b>Boiling point / boiling range</b>	150 °C	None known
<b>Flash point</b>	No data available	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapor pressure</b>	0.00000293 @25°C	None known
<b>Vapor density</b>	No data available	None known
<b>Relative density</b>	1.6012 @ 25°C	None known
<b>Water solubility</b>	No data available	None known
<b>Solubility(ies)</b>	Soluble in water	None known
<b>Partition coefficient</b>	log Pow=-1.68(Calc)	None known
<b>Autoignition temperature</b>	> 150 °C	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

### Other information

## 10. STABILITY AND REACTIVITY

### Reactivity

**Reactivity** No information available.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

### Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal processing.

### Conditions to avoid

**Conditions to avoid** Avoid exposure to heat, sources of ignition, and open flame. Avoid contact with combustible substances. Static discharge (electrostatic discharge). Dust formation.

### Incompatible materials

**Incompatible materials** Oxidizing agents. Alkalis.

### Hazardous decomposition products

**Hazardous decomposition products** Oxides of carbon.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

### Information on likely routes of exposure

**Product Information** No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

**Inhalation** May cause irritation.

**Eye contact** Causes serious eye irritation.

**Skin contact** May cause irritation.

**Ingestion** May cause gastrointestinal discomfort if consumed in large amounts.

**Symptoms** Irritation. May cause redness and tearing of the eyes.

### Numerical measures of toxicity - Product Information

**Oral LD50** 9300-10700 mg/kg  
**Inhalation LC50** > 1.306 mg/L air (analytical)/4hrs

See section 16 for terms and abbreviations

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity** Avoid contaminating waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Malic acid	EC50: >100 mg/l, 72h (OECD 201)	LC50: >100 mg/l, 96h (OECD 2003)	-	-

### Persistence and degradability

**Persistence and degradability** Readily biodegradable. (1).

### Bioaccumulative potential

**Bioaccumulation** No information available.

### Mobility

**Mobility in soil** No information available.

### Other adverse effects

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Dispose of in accordance with federal, state and local regulations.

## 14. TRANSPORT INFORMATION

### ADG

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

### IATA

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

### IMDG

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

## 15. REGULATORY INFORMATION

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

#### National regulations

##### Australia

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

See section 8 for national exposure control parameters

**Poisons Schedule (SUSMP)**                      None allocated

#### **National pollutant inventory**

Subject to reporting requirement

Chemical name	National pollutant inventory
Malic acid - 6915-15-7	20 MWh Threshold category 2b total 60000 MWh Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total

#### International Inventories

##### **AIIC**

This material is listed on the Australian Inventory of Industrial Chemicals.

#### **Legend:**

**AIIC - Australian Inventory of Industrial Chemicals**

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable



**16. OTHER INFORMATION**

Supplier Safety Data Sheet 03/ 2022

**Reason(s) For Issue:** Revised Primary SDS**Issuing Date:** 16-Nov-2022

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

**Revision Note:**

The symbol (\*) in the margin of this SDS indicates that this line has been revised.

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

**Key literature references and sources for data used to compile the SDS**

EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGl(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australian Industrial Chemicals Introduction Scheme (AICIS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 RTECS (Registry of Toxic Effects of Chemical Substances)  
 World Health Organization

**Disclaimer**

**This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.**

**If clarification or further information is needed, the user should contact their Bronson & Jacobs representative or Ixom Operations Pty Ltd at the contact details on page 1.**

**Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.**

**Bronson and Jacobs incorporating the businesses of Woods and Woods and Keith Harris and Australian Botanical Products.**

**End of Safety Data Sheet**