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MATERIAL SAFETY DATA SHEET (MSDS)

DL-MALIC ACID

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

1.1. Product identifier

Trade name : DL-MALIC ACID

Product code : M0128705000
CAS No: 617-48-1

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

Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification : SUVCHEM
Chaitanya Tower, 2nd Floor, Office # 206,
Siddharth Nagar, S.V. Road,
Goregaon (West), Mumbai - 400062,
Maharashtra, India.
Contact: +91 22 28725393 / 94 / 95
Email ID: info@suvchem.com/care@suvchem.com

1.4. Emergency telephone number

Phone no. : + 91 22 28725393 / 94 / 95 (9:00am - 6:00 pm) [Office hours]

2. Hazards identification -DSD

2.1. Classification of the substance or mixture

Classification EC 67/548 or EC 1999/45

Classification : R52-53

Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

Health hazards : Specific Target Organ Toxicity - Single exposure - Respiratory tract irritation -
Category 3 - Warning (CLP : STOT SE 3) H335
Acute toxicity, Oral - Category 4 - Warning (CLP : Acute Tox. 4) H302
Serious eye damage - Category 1 - Danger (CLP : Eye Dam. 1) H318
Skin irritation - Category 2 - Warning (CLP : Skin Corr. 2) H315

2.2. Label elements

Labelling EC 67/548 or EC 1999/45

Symbol(s) : None.

R Phrase(s) : R52/53 : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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DL-MALIC ACID
2. Hazards identification -DSD (continued)

S Phrase(s) : S35 : This material and its container must be disposed of in a safe way.
 S59 : Refer to manufacturer/supplier for information on recovery/recycling.
 S61 : Avoid release to the environment. Refer to special instructions/Safety data sheets.

Labelling Regulation EC 1272/2008 (CLP)
Hazard pictograms

Signal words

: Danger

Hazard statements

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

Precautionary statements
• Prevention

: P280: Wear protective gloves, protective clothing, eye protection, face protection.
 P271: Use only outdoors or in a well-ventilated area.
 P261: Avoid breathing dust, fume, gas, mist, vapours, spray.
 P264: Wash thoroughly after handling.
 P270: Do not eat, drink or smoke when using this product.

• Response

: P302+P352: IF ON SKIN : Wash with plenty of soap and water.
 P301+P312: IF SWALLOWED : Call a POISON CENTER or doctor if you feel unwell.
 P332+P313: If skin irritation occurs : Get medical advice.
 P305+P351+P338: IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P304+P340: IF INHALED : Remove to fresh air and keep at rest in a position comfortable for breathing.
 P363: Wash contaminated clothing before reuse.

• Storage

: P403+P233: Store in well-ventilated place. Keep container tightly closed.
 P405: Store locked up.

• Disposal considerations

: P501: Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards
Other hazards

: The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

3. Composition/information on ingredients

Substance / Preparation : Preparation.

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3. Composition/information on ingredients (continued)

Hazardous component(s) : This product is hazardous.

4. First aid measures
4.1. Description of first aid measures

Inhalation : Call a POISON CENTER or doctor if you feel unwell. Remove to fresh air and keep at rest in a position comfortable for breathing.

Skin contact : Get medical advice. Specific treatment (see on this label). If skin irritation occurs : Wash contaminated clothing before reuse. Wash with plenty of soap and water.

Eye contact : Immediately call a POISON CENTER or doctor. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes.

Ingestion : Obtain emergency medical attention. Do NOT induce vomiting. Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.

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

Symptoms relating to use : Causes serious eye damage.
 Swallowing a small quantity of this material will result in serious health hazard.
 Causes skin irritation. May cause respiratory irritation.

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

General information : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

5. Fire-fighting measures
5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

Surrounding fires : Use water spray or fog for cooling exposed containers.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products : Under fire conditions, hazardous fumes will be present.

5.3. Advice for fire-fighters

Protection against fire : Do not enter fire area without proper protective equipment, including respiratory protection.

Special procedures : Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

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6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For emergency responders : Equip cleanup crew with proper protection.
Ventilate area.

For non-emergency personnel : Evacuate unnecessary personnel.

6.2. Environmental precautions

Environmental precautions : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Clean up methods : On land, sweep or shovel into suitable containers. Minimize generation of dust.
Store away from other materials.

6.4. Reference to other sections

See section 8. Exposure controls/personal protection

7. Handling and storage

7.1. Precautions for safe handling

Handling : Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product.
Wash thoroughly after handling. Wash thoroughly after handling.

Technical protective measures : Provide good ventilation in process area to prevent formation of vapour.

Special precautions : Avoid breathing dust, fume, gas, mist, vapours, spray.

7.2. Conditions for safe storage, including any incompatibilities

Storage : Keep only in the original container in a cool, well ventilated place. Keep container tightly closed.

Storage - away from : Strong bases. Strong acids. Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

Specific end use(s) : None.

8. Exposure controls/personal protection

8.1. Exposure controls

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8. Exposure controls/personal protection (continued)

Personal protection	: Avoid all unnecessary exposure.
• Respiratory protection	: Wear approved mask.
• Hand protection	: Wear protective gloves.
• Skin protection	: Wear suitable protective clothing.
• Eye protection	: Chemical goggles or safety glasses.
• Others	: When using, do not eat, drink or smoke.

8.2. Control parameters

Occupational Exposure Limits	: No data available.
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9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Odour threshold	: No data available.
Melting point [°C]	: 129 - 133 °C
Decomposition point [°C]	: N/A
Flammability (solid, gas)	: N/A
Boiling point [°C]	: N/A
Evaporation rate	: N/A
Vapour pressure mm/Hg	: N/A
Vapour density	: N/A
Density [g/cm³]	: 1,6
Relative density, gas (air=1)	: N/A
Relative density, liquid (water=1)	: N/A
Solubility in water [% weight]	: Soluble in water
Log Pow octanol / water at 20°C	: No data available.
Solubility	: N/A

9.2. Other information

Explosive properties	: N/A
Oxidising properties	: No data available.

10. Stability and reactivity

10.1. Reactivity

Reactivity	: Not established.
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MATERIAL SAFETY DATA SHEET (MSDS)
DL-MALIC ACID
10. Stability and reactivity (continued)
10.2. Chemical stability

Chemical stability : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : Not established.

10.4. Conditions to avoid

Conditions to avoid : Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Materials to avoid : Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hazardous decomposition products : Fumes. Carbon monoxide. Carbon dioxide.

11. Toxicological information
11.1. Information on toxicological effects

Toxicity information : The product has been not fully tested. The calculated risk has been done under the requirements of the EU regulations.

Acute toxicity

- **Inhalation** : Based on available data, the classification criteria are not met.
- **Dermal** : Based on available data, the classification criteria are not met.
- **Ingestion** : Harmful if swallowed.

Corrosion : Causes serious eye damage.

Irritation : Causes skin irritation.
May cause respiratory irritation.

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

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

Toxic for reproduction : 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.

MATERIAL SAFETY DATA SHEET (MSDS)**DL-MALIC ACID****12. Ecological information****12.1. Toxicity**

Toxicity information : The product has been not fully tested. The calculated risk has been done under the requirements of the EU regulations.

12.2. Persistence - degradability

Persistence - degradability : Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential : Not established.

12.4. Mobility in soil

Mobility in soil : Not established.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

12.6. Other adverse effects

Environmental precautions : Avoid release to the environment.

13. Disposal considerations**13.1. Waste treatment methods**

General : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.
Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

14. Transport information**14.1. Land transport (ADR-RID)**

General information : Not regulated.

14.2. Sea transport (IMDG). [English only]

MATERIAL SAFETY DATA SHEET (MSDS)

DL-MALIC ACID

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

DISCLAIMER:

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
- **SUVCHEM** provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

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