

DL-MALIC ACID

SECTION 1: PRODUCT IDENTIFICATION

Product Name: DL-Malic acid
Product Code: TMB 047
CAS#: 6915-15-7
Synonym: Not available.
Chemical Name: Not available.
Chemical Formula: C₄H₆O₅
Formula Weight: 134.09

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Composition:
Name: DL-Malic acid
Toxicological Data on Ingredients: Not available

SECTION 3: HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.
Potential Acute Health Effects: Not available
Potential Chronic Health Effects: Not available.
Carcinogenic Effects: Not available.
Mutagenic Effects: Not available.
Teratogenic Effects: Not available.
Developmental Toxicity: Not available.

SECTION 4: FIRST AID MEASURES

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact: Wash off immediately with soap and plenty of water. Cover the irritated skin with emollient. Immediate medical attention is required.
Serious Skin Contact: Not available.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation: Not Available.
Ingestion: Do Not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
Serious Ingestion: Not available.

SECTION 5: FIRE FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the environment.
Special hazards arising from the substance or mixture
Sulfur oxides



Magnesium oxide
Not combustible.
Ambient fire may liberate hazardous vapours.

Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions
Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Storage conditions:

Tightly closed. Dry.

Hygroscopic.

Storage class:

Storage class (TRGS 510): 13: Non Combustible Solids

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Respiratory protection

Respiratory protection is not required. If protection from nuisance levels of dusts are desired, use type N95 or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance	:	Solid
Odor	:	Not available
Color	:	White
Molecular Weight	:	Not available
pH	:	Not available
Boiling Point	:	Not available
Melting Point	:	Not available
Critical Temperature	:	Not available
Specific Gravity	:	Not available



Vapor Pressure	:	Not available
Vapor Density	:	Not available
Volatility	:	Not available
Odor Threshold	:	Not available
Water/Oil Dist. Coeff.	:	Not available
Ionicity (in Water)	:	Not available
Dispersion Properties	:	Not available
Solubility	:	Not available

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: The product is chemically stable under standard ambient conditions (room temperature).

Instability Temperature: Not available

Conditions of Instability: Avoid moisture.

Incompatibility with various substances: Not available

Special Remarks on Corrosivity: Non-corrosive.

Special Remarks on Reactivity: Not available

Possibility of hazardous reactions: Not available

Hazardous decomposition products: In the event of fire

SECTION 11: TOXICOLOGICAL INFORMATION.

Acute Toxicity:

LD50 Oral - Rat - female - > 5.000 mg/kg

LD50 Dermal - Rat - male and female - > 2.000 mg/kg

Inhalation: Not available

Dermal: Not available

Routes of Entry: Not available

Toxicity to Animals: Not available

Chronic Effects on Humans: Not available

Other Toxic Effects on Humans: Not available

Special Remarks on Toxicity to Animals: Not available

Special Remarks on other Toxic Effects on Humans: Not available

Potential Health : Not available

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) - 680 mg/l-96 h

Toxicity to daphnia static test LC50 - Daphnia magna (Water flea) - 720 mg/l - 48 h and other aquatic invertebrates

Toxicity to algae static test EC50 - Chlorella vulgaris (Fresh water algae) - 2.700 mg/l- 18 Day

Toxicity to bacteria EC50 - Photobacterium phosphoreum - 84.000 mg/l - 30 min

BOD and COD: Not available

Products of Biodegradation: Not available.

Toxicity of the Products of Biodegradation: Not available

Special Remarks on the Products of Biodegradation: Not Available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.



SECTION 14: TRANSPORT INFORMATION

UN number:

ADR/RID:

IMDG:

IATA:

UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

Transport hazard class (es):

ADR/RID:

IMDG:

IATA:

Packaging group:

ADR/RID:

IMDG:

IATA:

Environmental hazards:

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

SECTION 15: REGULATORY INFORMATION

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: OTHER INFORMATION

References: Full text of H AND R-Statements: Not available

Other Special Considerations: Not available

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