

(DL-Malic Acid)

DATE PREPARED: 1/4/2016

#### Section 1. Product and Company Identification

**Product Name** DL-Malic Acid 6915-15-7 **CAS Number** 

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**EMERGENCY RESPONSE NUMBER** 

CHEMTEL

Toll Free US & Canada: 1 (800) 255-3924 All other Origins: 1 (813) 248-0585

Collect Calls Accepted

Section 2. Hazards Identification

# Classification of the substance or mixture GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Eye irritation (Category 2A): H319

# **GHS Label Elements**

**Pictograms:** 



Signal word: WARNING

# Hazard and precautionary statements **Hazard** statements

H319: Causes serious eye irritation.

#### **Precautionary statements**

P264: Wash skin thoroughly after handling.

P280: Wear eye protection/face protection.

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.

Hazards not otherwise classified (HNOC) or not covered by GHS: None



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# Section 3. Composition / Information on Ingredients

Common Name DL-Malic Acid

**Synonym(s)** (±)-2-Hydroxysuccinic acid, DL-Hydroxybutanedioic acid

Formula  $C_4H_6O_5$  CAS Number 6915-15-7

COMPONENT	CAS NUMBER	CONCENTRATION
DL-Malic Acid	6915-15-7	≤ 100%

#### Section 4. First Aid Measures

# **Description of first-aid measures**

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance.

Move out of dangerous area.

**Inhalation:** Move person into fresh air. If not breathing, give artificial respiration. Consult a

physician.

**Skin contact:** Wash off with soap and plenty of water. Consult a physician.

**Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water.

Consult a physician.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11. Indication of any immediate medical attention and special treatment needed: No data available

# Section 5. Firefighting Measures

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Special hazards arising from the substance or mixture: Carbon oxides

**Advice for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

Further information: No data available

Section 6. Accidental Release Measures

**Personal precautions, protective equipment, and emergency procedures:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Avoid breathing dust. For personal protection see section 8.

**Environmental precautions:** Do not let product enter drains.



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**Methods and materials for containment and cleaning up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal

Reference to other sections: For disposal see section 13

Section 7. Handling and Storage

**Precautions for safe handling:** Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): Non Combustible Solids

Section 8. Exposure Controls / Personal Protection

### **Control parameters**

**Components with workplace control parameters:** Contains no substances with occupational exposure limit values.

# **Exposure controls**

**Appropriate engineering controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

# Personal protective equipment

**Eye/face protection:** Safety glasses with side-shields conforming to EN166 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. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection:** Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace **Respiratory protection:** For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure:** Do not let product enter drains





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## Section 9. Physical and Chemical Properties

# Information on basic physical and chemical properties

**Appearance:** Solid **Odor:** No data available

Odor Threshold: No data available

pH: No data available

Melting point/freezing point: 131 - 133°C (268 - 271°F) - lit. Initial boiling point and boiling range: No data available

Flash point: Not applicable

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

**Vapor pressure:** < 0.1 hPa (< 0.1 mmHg) at  $20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ )

Vapor density: No data available

Relative density: 1.6 g/cm<sup>3</sup> at 20°C (68°F)

Water solubility: 646.6 g/l at 20°C (68°F) - OECD Test Guideline 105 - Soluble

Partition coefficient (n-octanol/water): log Pow: -1.259

Auto-ignition temperature: 340 °C (644 °F)

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available
Oxidizing properties: No data available
Other safety information: No data available

# Section 10. Stability and Reactivity

Reactivity: No data available

**Chemical stability:** Stable under recommended storage conditions.

Possibility of hazardous reactions: No data available

Conditions to avoid: Heat

Incompatible materials: Bases, Oxidizing agents, Reducing agents, Alkali metals

#### Hazardous decomposition products

Other decomposition products: No data available

In the event of fire: see section 5

#### Section 11. Toxicological Information

# Information on toxicological effects

Acute toxicity

**LD50 Oral:** Rat - male and female - 3,500 mg/kg (OECD Test Guideline 401)

Inhalation: No data available



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Dermal: No data available

**LD50 Intraperitoneal:** Rat - 100 mg/kg **LD50 Intraperitoneal:** Mouse - 50 mg/kg

Skin corrosion/irritation: No data available

# Serious eye damage/eye irritation

Eyes: Rabbit

**Result:** Severe eye irritation

Respiratory or skin sensitization: No data available

# Germ cell mutagenicity

Ames test: Salmonella typhimurium

**Result:** negative

#### **Carcinogenicity**

**IARC:** No components of this product, present at levels greater than or equal to 0.1%, is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH:** No components of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by ACGIH.

**NTP:** No components of this product, present at levels greater than or equal to 0.1%, is identified as a known or anticipated carcinogen by NTP.

**OSHA:** No components of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard: No data available

#### **Additional Information**

**RTECS:** ON7175000

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12. Ecological Information

#### **Toxicity**

#### Toxicity to daphnia and other aquatic invertebrates

Immobilization LC50: Daphnia magna (Water flea) - ca. 240 mg/l - 48 h

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Persistence and degradability: No data available Bioaccumulative potential: No data available

Mobility in soil: No data available

Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety

assessment not required/not conducted

Other adverse effects: No data available

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT (US):** Not dangerous goods **IMDG:** Not dangerous goods **IATA:** Not dangerous goods

Section 15. Regulatory Information

**SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards: Acute Health Hazard

### Massachusetts Right to Know Components

No components are subject to the Massachusetts Right to Know Act.

#### **Pennsylvania Right to Know Components**

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#### **New Jersey Right to Know Components**

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**California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

HMIS Rating Health: 2

Flammability: 0 Reactivity: 0



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NFPA Rating Health: 2

Flammability: 0 Reactivity: 0

Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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