

# SAFETY DATA SHEET

Preparation Date: 3/6/2013

Revision Date: 3/6/2013

Revision Number: G1

## 1. IDENTIFICATION

### Product identifier

**Product code:** M1584  
**Product Name:** R-(-)-MANDELIC ACID

### Other means of identification

**Synonyms:** Benzeneacetic acid, alpha-hydroxy-, (-)-; D(-)-Mandelic acid; Mandelic acid, D-; (-)-  
(R)-Mandelic acid; (-)-Mandelic acid; (-)-alpha-Hydroxyphenylacetic acid; (R)-(-)-  
Mandelic acid; (R)-alpha-Hydroxybenzeneacetic acid; (R)-alpha-Hydroxyphenylacetic  
acid; (R)-Hydroxy(phenyl)acetic acid; (R)-Mandelic acid; D-Mandelic acid; D-2-  
Phenylglycolic acid

**CAS #:** 611-71-2  
**RTECS #** Not available  
**CI#:** Not available

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

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemicals and Laboratory Products, Inc.  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Regina Wachenheim (East Coast)

**Emergency telephone number** Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)  
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

### Label elements

Not classified

### Other hazards

Not available

**Hazards not otherwise classified (HNOC)**

Not Applicable

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %	Trade Secret
R-(-)-Mandelic Acid 611-71-2	611-71-2	100	*

**4. FIRST AID MEASURES****First aid measures****Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:**

Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

**Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

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

May cause slight irritation.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician:**

Treat symptomatically

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

**5. FIRE-FIGHTING MEASURES****Extinguishing Media****Suitable Extinguishing Media:**Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray mist or foam.**Unsuitable Extinguishing Media:**

No information available.

**Specific hazards arising from the chemical****Hazardous Combustion Products:**

Carbon monoxide; Carbon dioxide

**Specific hazards:**

May be combustible at high temperatures.

**Special Protective Actions for Firefighters****Specific Methods:**

No information available.

**Special Protective Equipment for Firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.

**Environmental precautions** No information available.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

**Safe Handling Advice:**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Avoid dust formation. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Protect from light. Sensitive to light. Store in light-resistant containers.

**Incompatible Materials:**

Strong oxidizing agents. Strong bases. Strong acids. Reducing agents.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

**U.S Occupational Exposure Limits:** Not determined

**United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
R-(-)-Mandelic Acid - 611-71-2	None	None	None	None

**Canada**

**Canada Occupational Exposure Limits:** Not determined

Components	Alberta	British Columbia	Ontario	Quebec
R-(-)-Mandelic Acid - 611-71-2	None	None	None	None

## Australia and Mexico

Occupational Exposure Limits for Australia and Mexico: Not determined

Components	Australia	Mexico
R-(-)-Mandelic Acid 611-71-2	None	None

### Appropriate engineering controls

**Engineering measures to reduce exposure:** Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

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

#### Personal Protective Equipment

**Eye protection:** Safety glasses. Safety glasses with side-shields.

**Skin and body protection:** Long sleeved clothing. Chemical resistant apron. Gloves.

**Respiratory protection:** Effective dust mask. Wear respirator with dust filter..

**Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid.	<b>Appearance:</b> Crystalline. Crystalline powder.	<b>Color:</b> White. Off-white.
<b>Odor:</b> No information available	<b>Taste</b> No information available	<b>Formula:</b> C8-H8-O3
<b>Molecular/Formula weight:</b> 152.15	<b>Flash point (°C):</b> Not applicable	<b>Flashpoint (°C/°F):</b> Not applicable
<b>Flash Point Tested according to:</b> Not applicable	<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available
<b>Autoignition Temperature (°C/°F):</b> No information available	<b>pH:</b> No information available	<b>Melting point/range(°C/°F):</b> 131-135 °C/267.8-275 °F
<b>Boiling point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> No information available	<b>Specific gravity:</b> No information available
<b>Density (g/cm3):</b> No information available	<b>Bulk density:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Soluble in Water	

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with strong oxidizing agents, strong bases, strong acids, reducing agents

### Chemical stability

**Stability:** Stable at normal conditions

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Avoid dust formation. Dust may form explosive mixture in air. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Exposure to light. May decompose on long exposure to light..

**Incompatible Materials:** Strong oxidizing agents. Strong bases. Strong acids. Reducing agents.

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

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### **Principal Routes of Exposure:**

Ingestion. Inhalation.

### Numerical measures of toxicity Product Information

#### Acute Toxicity

#### **Component Information**

*R-(-)-Mandelic Acid - 611-71-2*

##### **LD50/oral/rat =**

No information available

**LD50/oral/mouse** No information available

##### **LD50/dermal/rabbit =**

No information available

**LD50/dermal/rat =** No information available

**LC50/inhalation/rat =** No information available

**LC50/inhalation/mouse =** No information available

##### **Other LD50 or LC50 information =**

No information available

#### **Product Information**

##### **LD50/oral/rat**

**VALUE- Acute Tox Oral =** No information available

##### **LD50/oral/mouse**

**Value - Acute Tox Oral =** No information available

**LD50/dermal/rabbit**

VALUE-Acute Tox Dermal = No information available

**LD50/dermal/rat**

VALUE -Acute Tox Dermal = No information available

**LC50/inhalation/rat**

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

**LC50/Inhalation/mouse**

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

**Symptoms**

**Skin Contact:** May cause skin irritation.

**Eye Contact:** Contact with eyes may cause irritation.

**Inhalation:** May cause irritation of respiratory tract.

**Ingestion** Health injuries are not known or expected under normal use.

**Aspiration hazard** No information available

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

**Chronic Toxicity** No information available.

**Sensitization:** No information available

**Mutagenic Effects:** No information available

**Carcinogenic effects:** No information available.

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
R-(-)-Mandelic Acid	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available

**STOT - repeated exposure** No information available

**Target Organs:** No information available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

**Mobility:** No information available

## 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
R-(-)-Mandelic Acid	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** Not regulated

**Proper Shipping Name:** No information available

**Hazard Class:** No information available

**Subsidiary Risk:** Not applicable

**Packing Group:** None

**Marine Pollutant:** No data available

**ERG No:** No information available

**DOT RQ (lbs):** No information available

### TDG (Canada)

**UN-No:** Not Regulated

**Proper Shipping Name:** No information available

**Hazard Class:** No information available

**Subsidiary Risk:** No information available

**Packing Group:** No information available

**Description:** No information available

### ADR

**UN-No:** Not Regulated

**Proper Shipping Name:** No information available

**Hazard Class:** No information available

**Packing Group:** No information available

**Subsidiary Risk:** No information available

**Classification Code:** No information available

**Description:** No information available

## 14. TRANSPORT INFORMATION

CEFIC Tremcard No: No information available

### IMO / IMDG

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available  
Description: No information available  
IMDG Page: No information available  
Marine Pollutant: No information available  
MFAAG: No information available  
Maximum Quantity: No information available

### RID

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available  
Classification Code: No information available  
Description: No information available

### ICAO

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available  
Description: No information available

### IATA

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available  
Description: No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	Philippines (PICCS)	KOREA KECL	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>R-(-)-Mandelic Acid</i>	Present	Not present	Not present	3-1764	Not present	Present	Present 210-276-6

### U.S. Regulations

#### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

##### Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

##### Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)



Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
R(-)-Mandelic Acid	Not Listed	Not Listed	Not Listed	Not Listed

#### CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
R(-)-Mandelic Acid	None	None	None	None	None

#### U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
R(-)-Mandelic Acid	Not Applicable	Not Applicable

#### Canada

**WHMIS hazard class:**  
Non-controlled

#### Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

#### Inventory

Components	Canada (DSL)	Canada (NDSL)
R(-)-Mandelic Acid	Not Listed	Present

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
R(-)-Mandelic Acid	Not listed	Not listed

#### EU Classification

##### R-phras(e)s

not determined

##### S -phras(e)s

none

The product is classified in accordance with Annex VI to Directive 67/548/EEC

##### **Indication of danger:**

Not dangerous

## 16. OTHER INFORMATION

NFPA	HMIS	Personal Protective Equipment
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Health Hazard	1
Fire Hazard	1
Reactivity	0



See Section 8.

Preparation Date: 3/6/2013  
Revision Date: 3/6/2013  
Prepared by: Sonia Owen

**Disclaimer:** All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Material Safety Data Sheet**