Material Safety Data Sheet
DL-Mandelic acid

ACC# 88702

Section 1 - Chemical Product and Company Identification

MSDS Name: DL-Mandelic acid
Catalog Numbers: AC125310000, AC125310010, AC125311000, AC125312500, AC220860000, AC220860500, AC220860500, AC220862500
Synonyms: Amygdalic acid; alpha-Hydroxyphenylacetic acid; alpha-Hydroxy-alpha-toluic acid; racemic Mandelic acid; Paramandelic acid; Phenylglycolic acid; Phenylhydroxyacetic acid.

Company Identification:
Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-64-2</td>
<td>Mandelic acid</td>
<td>&gt;98</td>
<td>202-007-6</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white crystalline powder.
Warning! Causes eye, skin, and respiratory tract irritation. May be harmful if swallowed.
Target Organs: Kidneys.

Potential Health Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.
Inhalation: Causes respiratory tract irritation.
Chronic: Repeated exposure may cause kidney damage and digestive tract abnormalities.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

https://fscimage.fishersci.com/msds/88702.htm
General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability:

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid breathing dust.

Storage: Store in a cool place in the original container and protect from sunlight. Keep container closed when not in use. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandelic acid</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Mandelic acid: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder

Appearance: white

Odor: faint sweet odor

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.
**Boiling Point:** Not available.
**Freezing/Melting Point:** 120-122 deg C
**Decomposition Temperature:** Not available.
**Solubility:** Slightly soluble.
**Specific Gravity/Density:** 1.30
**Molecular Formula:** C8H8O3
**Molecular Weight:** 152.15

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### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures. Darkens and decomposes on exposure to light.

**Conditions to Avoid:** Dust generation, excess light.

**Incompatibilities with Other Materials:** Bases; reducing agents; oxidizing agents. Darkens and decomposes on prolonged exposure to light.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide.

**Hazardous Polymerization:** Will not occur.

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### Section 11 - Toxicological Information

**RTECS#:**
**CAS# 90-64-2:** OO6300000
**LD50/LC50:**
Not available.
Oral, rat: LD50 = 1000-2000 mg/kg.

**Carcinogenicity:**
**CAS# 90-64-2:** Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No data available.
**Teratogenicity:** No data available.
**Reproductive Effects:** No data available.
**Mutagenicity:** No data available.
**Neurotoxicity:** No data available.
**Other Studies:**

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### Section 12 - Ecological Information

No information available.

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### Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.
**RCRA U-Series:** None listed.

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### Section 14 - Transport Information

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<tr>
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<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipping Name:</strong></td>
<td>Not regulated</td>
<td>Not Regulated</td>
</tr>
</tbody>
</table>
US FEDERAL

TSCA
CAS# 90-64-2 is listed on the TSCA inventory.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

Section 313
No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 90-64-2 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
  XN

Risk Phrases:
  R 22 Harmful if swallowed.
  R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:
  S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  S 37/39 Wear suitable gloves and eye/face protection.

WGK (Water Danger/Protection)
CAS# 90-64-2: No information available.

Canada - DSL/NDSL
CAS# 90-64-2 is listed on Canada’s DSL List.

Canada - WHMIS
WHMIS: Not available.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the
MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

**MSDS Creation Date:** 12/12/1997  
**Revision #4 Date:** 3/16/2007

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.