Material Safety Data Sheet
L-(−)-Proline, 99+% 

ACC# 95802

Section 1 - Chemical Product and Company Identification

MSDS Name: L-(−)-Proline, 99+% 
Catalog Numbers: AC157620000, AC157620050, AC157620250, AC157621000 
Synonyms: (S)-Pyrrolidine-2-Carboxylic 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>147-85-3</td>
<td>L-Proline</td>
<td>&gt;98.5</td>
<td>205-702-2</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white solid. 
Caution! May cause eye irritation. The toxicological properties of this material have not been fully investigated. This is expected to be a low hazard for usual industrial handling. 
Target Organs: None.

Potential Health Effects 
Eye: No information regarding eye irritation and other potential effects was found. Contact may cause transient eye irritation. 
Skin: Low hazard for usual industrial handling. 
Ingestion: The toxicological properties of this substance have not been fully investigated. 
Inhalation: The toxicological properties of this substance have not been fully investigated. 
Chronic: No information found.

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. 
Skin: 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.

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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.
Antidote: No specific antidote exists.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Dusts at sufficient concentrations can form explosive mixtures with air. Combustion generates toxic fumes.
Extinguishing Media: For small fires, use water spray, dry chemical, carbon dioxide or chemical foam. Use agent most appropriate to extinguish fire.
Flash Point: Not available.
Autoignition Temperature: Not available.
Explosion Limits, Lower: N/A
Upper: N/A
NFPA Rating: Not published.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin and eyes. Keep container tightly closed. Avoid ingestion and inhalation.
Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: 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>L-Proline</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: L-Proline: 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 protective 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. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Appearance: white
Odor: None reported.
pH: Not available.
Vapor Pressure: Negligible.
Vapor Density: Not available.
Evaporation Rate: Negligible.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: 228 - 233 deg C
Decomposition Temperature: Not available.
Solubility: SOLUBLE IN WATER: 1623 G/L (25°C).
Specific Gravity/Density: Not available.
Molecular Formula: C5H9NO2
Molecular Weight: 115.13

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: High temperatures, incompatible materials.
Incompatibilities with Other Materials: Strong oxidizers.
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: 
CAS# 147-85-3: TW3584000
LD50/LC50:
Not available.

Carcinogenicity:
CAS# 147-85-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: No information available.
Other Studies: None.
Section 12 - Ecological Information

**Ecotoxicity:** No data available. No information available.
**Environmental:** This substance has a moderate biological oxygen demand and may cause oxygen depletion in aquatic systems. It is biodegradable and not expected to persist in the environment or bioconcentrate.
**Physical:** No information available.
**Other:** None.

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.

Section 14 - Transport Information

<table>
<thead>
<tr>
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<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipping Name:</strong></td>
<td>Please contact Fisher Scientific for shipping information</td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Hazard Class:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UN Number:</strong></td>
<td></td>
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<tr>
<td><strong>Packing Group:</strong></td>
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</table>

Section 15 - Regulatory Information

**US FEDERAL**

**TSCA**
CAS# 147-85-3 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:**

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2/3/2005
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# 147-85-3 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:**
Not available.

**Risk Phrases:**

**Safety Phrases:**
S 24/25 Avoid contact with skin and eyes.

**WGK (Water Danger/Protection)**
CAS# 147-85-3: 0

**Canada - DSL/NDSL**
CAS# 147-85-3 is listed on Canada’s DSL List.

**Canada - WHMIS**
WHMIS: Not available.

**Canadian Ingredient Disclosure List**

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**Section 16 - Additional Information**

**MSDS Creation Date:** 9/02/1997
**Revision #2 Date:** 3/18/2003

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