Material Safety Data Sheet
L-Dopa, 99%

MSDS# 09827

Section 1 - Chemical Product and Company Identification

MSDS Name: L-Dopa, 99%
Catalog Numbers: AC167530000, AC167530050, AC167530250, AC167531000, AC167535000
Synonyms: 3-(3,4-Dihydroxyphenyl)-L-alanine; 1-Dihydroxyphenyl-1-alanine; 2-Amino-3(3,4-dihydroxyphenyl)propanoic acid.

Company Identification:
Acros Organics BVBA
Janssen Pharmaceuticaal 3a
2440 Geel, Belgium

Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

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CAS#: 59-92-7
Chemical Name: L-Dopa
%: 99
EINECS#: 200-445-2
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Hazard Symbols: XN

Risk Phrases: 22 33 36/37/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Warning! Light sensitive. Air sensitive. May be harmful if swallowed. Causes eye, skin, and respiratory tract irritation.
Target Organs: Heart, central nervous system.

Potential Health Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation.
Ingestion: central nervous system effects such as psychosis, hallucinations, depression, visual changes and mental changes. May cause cardiac abnormalities.
Inhalation: Causes respiratory tract irritation.
Chronic: Chronic ingestion may cause effects similar to those of acute ingestion. May cause reproductive and fetal effects.
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: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. 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:

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. 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 appropriate foam.

Autoignition Temperature: Not available.
Flash Point: Not available
Explosion Limits: Not available
Explosion Limits: Not available
NFPA Rating: health: 2; flammability: ; 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. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.
Storage: Store in a cool, dry place. Keep container closed when not in use. Absorbs oxygen from the air and will darken upon exposure. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

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

OSHA Vacated PELs: L-Dopa: None listed

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

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.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a Respirators: 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: Powder
Color: colorless to white
Odor: odorless
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: 295 deg C (dec)

Decomposition Temperature:
Solubility in water: Not available.
Specific Gravity/Density:
Molecular Formula: C9H11NO4
Molecular Weight: 197.19

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Light, dust generation, exposure to air.
Incompatibilities with Other Materials Strong oxidizing agents.
Hazardous Decomposition Products Nitrogen oxides, carbon monoxide, carbon dioxide.
Hazardous Polymerization Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 59-92-7: AY5600000
RTECS: CAS# 59-92-7: Oral, mouse: LD50 = 2363 mg/kg;
LD50/LC50: Oral, rabbit: LD50 = 609 mg/kg;
Oral, rat: LD50 = 1780 mg/kg;
Carcinogenicity: L-Dopa - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

European/International Regulations
European Labeling in Accordance with EC Directives

Hazard Symbols: XN

Risk Phrases:
R 22 Harmful if swallowed.
R 33 Danger of cumulative effects.
R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:
S 24/25 Avoid contact with skin and eyes.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

WGK (Water Danger/Protection)
CAS# 59-92-7: Not available

Canada

CAS# 59-92-7 is listed on Canada's NDSL List
Canadian WHMIS Classifications: D2B
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.
CAS# 59-92-7 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 59-92-7 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 3/16/1998
Revision #6 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility 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 the company 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 the company has been advised of the possibility of such damages.