Material Safety Data Sheet
L(-)-Epinephrine, 99%

MSDS# 96863

Section 1 - Chemical Product and Company Identification

MSDS Name: L(-)-Epinephrine, 99%
Catalog Numbers: AC204400000, AC204400050, AC204400100
Synonyms: 1-3,4-Dihydroxy-Alpha-(Methylaminomethyl)Benzyl Alcohol; Adrenaline

Company Identification:
Acros Organics BVBA
Janssen Pharmaceuticalaan 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
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#: 51-43-4
Chemical Name: L(-)-Epinephrine
%
99
EINECS#: 200-098-7

Hazard Symbols: T
Risk Phrases: 23/24/25 33 36/37/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Warning! Light sensitive. Air sensitive. The toxicological properties of this material have not been fully investigated. May cause central nervous system depression. May cause central nervous system effects. May cause cardiac disturbances. Harmful if swallowed, inhaled, or absorbed through the skin. Causes eye, skin, and respiratory tract irritation. Target Organs: Central nervous system, respiratory system, cardiovascular system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. At high concentrations may cause lacrimation (tearing) and irritation. May cause chemical conjunctivitis.

Skin: Causes skin irritation. May be absorbed through the skin in harmful amounts.

Ingestion: Toxicological properties of this substance have not been fully investigated. May cause central nervous system depression.

May cause respiratory tract irritation. The toxicological properties of this substance have not been fully
Inhalation: investigated. May be harmful if inhaled. May cause cardiac damage. Can produce delayed pulmonary edema. Inhalation at high concentrations may cause CNS depression and asphyxiation.

Chronic: Effects may be delayed.

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: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

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. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat symptomatically and supportively.

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. Containers may explode in the heat of a fire. Runoff from fire control or dilution water may cause pollution.

Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use water spray to cool fire-exposed containers.

Autoignition Temperature: Not available

Flash Point: Not available

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 2; flammability: 0; instability: 1;

Section 6 - Accidental Release Measures

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

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Provide ventilation. Place under an inert atmosphere.

Section 7 - Handling and Storage

Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid Handling: ingestion and inhalation. Store protected from light. Handle under an inert atmosphere. Store protected from air. Wash clothing before reuse.


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(-)-Epinephrine</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
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</tbody>
</table>

OSHA Vacated PELs: L(-)-Epinephrine: None listed

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Personal Protective Equipment
Eyes: Wear safety glasses and chemical goggles if splashing is possible.
Skin: Wear appropriate protective gloves and clothing to prevent skin exposure.
Clothing: Wear appropriate protective clothing to minimize contact with skin.
Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

Section 9 - Physical and Chemical Properties
Physical State: Crystalline powder
Color: white to light beige
Odor: None reported.

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: 208-211 deg C

Decomposition Temperature:
Solubility in water: slightly soluble
Specific Gravity/Density:
Molecular Formula: C9H13NO3
Molecular Weight: 183.21

Section 10 - Stability and Reactivity
Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, light, exposure to air, excess heat.
Incompatibilities with Other Materials: Oxidizing agents, acids, acid chlorides.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information
RTECS#: CAS# 51-43-4: DO2625000
RTECS: 
LD50/LC50: CAS# 51-43-4: Skin, rat: LD50 = 62 mg/kg;
Carcinogenicity: L(-)Epinephrine - 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
Other: No information 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: DOT regulated - small quantity provisions apply (see 49CFR173.4)
Hazard Class: 
UN Number: 
Packing Group: 
Canada TDG
Shipping Name: Not available
Hazard Class: 
UN Number: 
Packing Group:
USA RQ: CAS# 51-43-4: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T

Risk Phrases:
- R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
- R 33 Danger of cumulative effects.
- R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:
- S 23 Do not inhale gas/fumes/vapour/spray.
- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 51-43-4: 3

Canada

CAS# 51-43-4 is listed on Canada's DSL List
Canadian WHMIS Classifications: D1A, 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# 51-43-4 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 51-43-4 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 9/02/1997
Revision #10 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.

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