Material Safety Data Sheet
Ethyl L-Lactate, 97% (GC)

MSDS# 52907

Section 1 - Chemical Product and Company Identification

MSDS Name: Ethyl L-Lactate, 97% (GC)
Catalog Numbers: AC118660000, AC118660010, AC118660050, AC118662500
Synonyms: L-Ethyl Lactate.

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#: 687-47-8
Chemical Name: Ethyl L-(-)-lactate
%
97
EINECS#: 211-694-1

Hazard Symbols: F

Risk Phrases: 10

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! Flammable liquid and vapor. May cause eye and skin irritation. May cause respiratory and digestive tract irritation. Target Organs: None.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation.
Ingestion: May cause digestive tract disturbances.
Inhalation: May cause respiratory tract irritation.
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 immediately.
Section 5 - Fire Fighting Measures

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media:
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out.

Autoignition
Temperature: 400 deg C (752.00 deg F)
Flash Point: 46 deg C (114.80 deg F)
Explosion
Limits: Lower: 1.50 vol %
Explosion
Limits: Upper: 11.40 vol %
NFPA Rating: health: 1; flammability: 2; instability: 0;

Section 6 - Accidental Release Measures

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

Spills/Leaks:
Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Do not flush into a sewer. Remove all sources of ignition. Use a spark-proof tool. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling:
Ground and bond containers when transferring material. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage:
Keep away from heat, sparks, and flame. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Keep containers tightly closed.

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>Ethyl L-(-)-lactate</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Ethyl L-(-)-lactate: None listed

Engineering Controls:
Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

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 minimize contact with skin.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or
Respirators: European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. 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: Liquid
Color: colorless
Odor: None reported.
pH: Not available
Vapor Pressure: 2 mmHg @ 20 C
Vapor Density: 4.1
Evaporation Rate: Not available
Viscosity: Not available
Boiling Point: 154 deg C @ 760.00mm Hg (309.20°F)
Freezing/Melting Point: -26 deg C (-14.80°F)

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, ignition sources, strong oxidants.
Incompatibilities with Other Materials Not available
Hazardous Decomposition Products Carbon monoxide, carbon monoxide, carbon dioxide.
Hazardous Polymerization Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 687-47-8: None listed
LD50/LC50: RTECS: Not available.
Carcinogenicity: Ethyl L-(−)-lactate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

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: ETHYL LACTATE
Hazard Class: 3
UN Number: UN1192
Packing Group: III
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: F
Risk Phrases:
R 10 Flammable.

Safety Phrases:
S 23 Do not inhale gas/fumes/vapour/spray.

WGK (Water Danger/Protection)
CAS# 687-47-8: Not available

Canada
CAS# 687-47-8 is listed on Canada's NDSL List
Canadian WHMIS Classifications: 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.
CAS# 687-47-8 is not listed on Canada's Ingredient Disclosure List.

US Federal
TSCA
CAS# 687-47-8 is listed on the TSCA Inventory.

Section 16 - Other Information
MSDS Creation Date: 12/19/1997
Revision #5 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 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 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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