



## MATERIAL SAFETY DATA SHEET

### (-)*Ethyl-L-Lactate*

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** (-)Ethyl-L-Lactate

**SYNONYM:** (-)-Ethyl (*S*)-2-hydroxypropionate

**MOLECULAR FORMULA:** C<sub>5</sub>H<sub>10</sub>O<sub>3</sub>

**MOLECULAR WEIGHT:** 118.13 g/mol

**CREATION DATE:** Mar 02 2007

**CONTACT PERSON:**

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**REVISION DATE:** Jan 13 2016

#### 2. HAZARDS IDENTIFICATION

##### Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 3), H226

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xi Irritant R37, R41, R10

For the full text of the R-phrases mentioned in this Section, see Section 16.

##### Label elements

##### Labeling according Regulation (EC) No 1272/2008

Hazard statement(s)

H226 Flammable liquid and vapour  
 H318 Causes serious eye damage.  
 H335 May cause respiratory irritation.

Precautionary statement(s)

P261 Avoid breathing vapours.  
 P280 Wear protective gloves/ eye protection/ face protection.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 Supplemental Hazard - None  
**Other hazards** - none

### 3. COMPOSITION, INFORMATION ON INGREDIENTS

CAS No.	EC No.	Chemical Name	Percent
687-47-8	211-694-1	(-)Ethyl-L-Lactate	>99

### 4. FIRST AID MEASURES

**EYES:** Remove the victim from the source of contamination and take him to the nearest eye wash, shower, or other source of clean water. Gently rinse the affected eye(s) with clean, lukewarm water for at least 15 minutes. Have the victim lie or sit down and tilt his head back. Hold the eyelid(s) open and pour water slowly over the eyeball(s) at the inner corners, letting the water run out of the outer corners. Ask the victim to look up, down and side to side as you rinse in order to better reach all parts of the eye(s). If the victim cannot tolerate light, protect his eye(s) with a clean, loosely tied handkerchief or strip of clean, soft cloth or bandage. Seek medical attention immediately.

**SKIN:** Remove the victim from the source of contamination. Remove clothing, shoes, socks, and jewelry from the affected areas. Be careful not to get any of the chemical on your skin or clothing. Wash the affected area with tepid water. Dry the skin gently with a clean, soft towel. Seek medical attention immediately.

**INHALATION:** Remove the victim from the contaminated area while protecting yourself from exposure by wearing an appropriate respirator. Put a similar respirator on the victim. Remove contaminated clothing and equipment, while wear gloves, being careful not to contaminate yourself. Administer CPR if necessary. Seek medical attention immediately.

**INGESTION:** Remove the victim from the contaminated area to a quiet, well-ventilated area. Call a poison control center, inform them of the chemical swallowed and follow their advice. Seek medical attention immediately.

## 5. FIRE FIGHTING MEASURES

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**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special hazards arising from the substance or mixture**

Carbon oxides

**Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Further information**

Use water spray to cool unopened containers.

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## 6. ACCIDENTAL RELEASE MEASURES

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Spill or Leak instructions: See Section 8 for appropriate personal protective equipment. Contain spill with dikes of soil or nonflammable absorbent to minimize contaminated area. Avoid run-off into storm sewers and ditches leading to waterways. If required, notify state and local authorities. Place leaking containers in well ventilated area. Clean up small spills by using a nonflammable absorbent or flushing sparingly with water. Contain larger spills with nonflammable diking or absorbent. Clean up by vacuuming or sweeping.

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Assess the spill situation, as the spill may not evolve large amounts of hazardous airborne contaminants in many outdoor spill situations. It may be advisable in some cases to simply monitor the situation until spilled product is removed.

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## 7. HANDLING AND STORAGE

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**Handling:**

Use with adequate ventilation. Keep containers closed when not in use. Always open Containers slowly to allow any excess pressure to vent. Avoid breathing vapor. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Decontaminate soiled clothing thoroughly before re-use. Destroy contaminated leather clothing. This product may generate a static charge. Ground/bond equipment when transferring material to prevent static accumulation. Electrical equipment and circuits in all storage and handling must conform to requirements of National Electric Code (Article 500 and 501) for hazardous location

**Storage:**

Do not store with incompatible materials. See Section 10. Stability and Reactivity

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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**Protective Equipment:** A safety shower and eyebath should be readily available.

**Skin Protection:** Wear impervious clothing and gloves to prevent contact. Nitrile rubber is recommended. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

**Eye/face protection:** Wear chemical goggles when there is a reasonable chance of eye contact.

**Respiratory Protection:** Based on workplace contaminant level and working limits of the respirator, use a respirator approved by NIOSH. The following is the minimum recommended equipment for an occupational exposure level. To estimate an occupational exposure levels see Section 3, Section 8 and Section 11.

For concentrations > 1 and < 10 times the occupational exposure level: Use air-purifying respirator with full face piece and organic vapor cartridge(s) or air-purifying full face piece respirator with an organic vapor canister or a full face piece powered air-purifying respirator fitted with organic vapor cartridge(s). The air purifying element must have an end of service life indicator, or a documented change out schedule must be established. Otherwise, use supplied air.

For escape: Use self-contained breathing apparatus with full face piece or any respirator specifically Approved for escape.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Appearance:</b>	Clear, colorless liquid
<b>Melting point:</b>	-26 °C @ 760.00 mmHg
<b>Boiling point:</b>	154 °C @ 760.00 mmHg
<b>Flash point:</b>	46 °C - closed cup
<b>Flammability:</b>	No data available

<b>Auto flammability:</b>	No data available
<b>Explosive properties:</b>	No data available
<b>Oxidizing properties:</b>	No data available
<b>Vapor pressure:</b>	2.1 hPa at 20 °C
<b>Vapor density:</b>	4.0 (Air = 1)
<b>Volatile by volume:</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Relative Density:</b>	1.034 g/ml at 20 °C
<b>pH of Product:</b>	No data available
<b>Solubility in water:</b>	Soluble

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## 10. STABILITY AND REACTIVITY

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### Stability

Stable under ordinary conditions of use and storage

### Incompatibility

Strong Oxidizers

### Hazardous combustion or decomposition products

Carbon dioxide and carbon monoxide may form when heated to decomposition

### Hazardous Polymerization

Hazardous polymerization will not occur

### Conditions to avoid

Heat, flames and sparks

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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity:

No data available

**Skin corrosion/irritation:**

No data available

**Serious eye damage/irritation:**

No data available

**Respiratory or skin sensitization:**

No data available

**Germ cell mutagenicity:**

No data available

**Carcinogenicity:**

No data available

**IARC:** No data available**NTP:** No data available**OSHA:** No data available**Reproductive toxicity:**

No data available

**Routes of Exposure:** Inhalation, Eye contact, Ingestion, Skin contact.**Symptoms related to exposure:**

Eye contact can result in corneal damage or blindness. Inhalation causes irritation of the lungs and respiratory system.

**Potential Health Effects:**

Inhalation causes irritation of the lungs and respiratory system.

**Target organ(s):**

May cause respiratory irritation.

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**12. ECOLOGICAL INFORMATION**

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Readily biodegradable      Not determined

Inherently biodegradable      Not determined

**Ecotoxicity**

Fish      Not determined

Algae      Not determined

Daphnia      Not determined

Bacteria      Not determined

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### 13. DISPOSAL CONSIDERATIONS

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Dispose of spilled material in accordance with state and local regulations for waste that is non-hazardous by Federal definition. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete. Note that this handling and disposal information may also apply to empty containers, liners and reinstates.

State or local regulations or restrictions are complex and may differ from federal regulations. This information is intended as an aid to proper handling and disposal; the final responsibility for handling and disposal is with the owner of the waste.

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### 14. TRANSPORT INFORMATION

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**UN number**

ADR/RID: 1192 IMDG: 1192 IATA: 1192

**UN proper shipping name**

ADR/RID: ETHYL LACTATE

IMDG: ETHYL LACTATE

IATA: ETHYL LACTATE

**Transport hazard class(es)**

ADR/RID: 3 IMDG: 3 IATA: 3

**Packaging group**

ADR/RID: III IMDG: III IATA: III

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### 15. REGULATORY INFORMATION

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This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

No data available

**Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out

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### 16. OTHER INFORMATION

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**Full text of H-Statements referred to under sections 2**

H226 Flammable liquid and vapour.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.

**Full text of R-phrases referred to under sections 2**

Xi Irritant  
R10 Flammable  
R37 Irritating to respiratory system  
R41 Risk of serious damage to eyes

The information in this safety data sheet is based on data and samples provided. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes.

The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. Godavari Biorefineries Limited does not guarantee the accuracy or exhaustiveness of the information provided.