

SAFETY DATA SHEET

Version 5.2
Revision Date 08/26/2014
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1. PRODUCT AND COMPANY IDENTIFICATION

| | | | |
|--|---|--|---|
| Product name | : | Ethyl lactate | |
| Product Number | : | W244015 | |
| Brand | : | Aldrich | |
| Product Use | : | For laboratory research purposes. | |
| Supplier | : | Sigma-Aldrich Canada Co. 2149 Winston Park Drive OAKVILLE ON L6H 6J8 CANADA | Manufacturer : Sigma-Aldrich Corporation 3050 Spruce St. St. Louis, Missouri 63103 USA |
| Telephone | : | +1 9058299500 | |
| Fax | : | +1 9058299292 | |
| Emergency Phone # (For both supplier and manufacturer) | : | 1-800-424-9300 | |
| Preparation Information | : | Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956 | |

2. HAZARDS IDENTIFICATION

Emergency Overview

WHMIS Classification

| | | |
|-----|--|--|
| B3 | Combustible Liquid | Combustible Liquid |
| D2B | Toxic Material Causing Other Toxic Effects | Moderate respiratory irritant Moderate eye irritant |

GHS Classification

Flammable liquids (Category 3)
Serious eye damage (Category 1)
Specific target organ toxicity - single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

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

Precautionary statement(s)

| | |
|--------------------|--|
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| 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. |

HMIS Classification

| | |
|-------------------|---|
| Health hazard: | 2 |
| Flammability: | 2 |
| Physical hazards: | 0 |

Potential Health Effects

| | |
|-------------------|--|
| Inhalation | May be harmful if inhaled. Causes respiratory tract irritation. |
| Skin | May be harmful if absorbed through skin. Causes skin irritation. |
| Eyes | Causes eye irritation. |
| Ingestion | May be harmful if swallowed. |

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Ethyl 2-hydroxypropionate

Formula : C₅H₁₀O₃

Molecular weight : 118.13 g/mol

| CAS-No. | EC-No. | Index-No. | Concentration |
|----------------------|-----------|--------------|---------------|
| Ethyl lactate | | | |
| 97-64-3 | 202-598-0 | 607-129-00-7 | <=100% |

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

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

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Explosion data - sensitivity to mechanical impact

No data available

Explosion data - sensitivity to static discharge

No data available

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.2 mm

Break through time: 60 min

Material tested: Dermatrill® P (KCL 743 / Aldrich Z677388, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

| | |
|--------|-------------------|
| Form | liquid |
| Colour | No data available |

Safety data

| | |
|--|--|
| pH | No data available |
| Melting point/freezing point | -26 °C (-15 °F) |
| Boiling point | 154 °C (309 °F) - lit. |
| Flash point | 46 °C (115 °F) - closed cup |
| Ignition temperature | 400 °C (752 °F) |
| Auto-ignition temperature | No data available |
| Lower explosion limit | 1.5 %(V) |
| Vapour pressure | 3 hPa (2 mmHg) at 20 °C (68 °F) |
| Density | 1.031 g/cm ³ at 25 °C (77 °F) |
| Water solubility | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Relative vapour density | 4.73 |
| Odour | No data available |
| Odour Threshold | No data available |
| Evaporation rate | No data available |

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - Rat - 8,200 mg/kg

Inhalation LC50

No data available

Dermal LD50

LD50 Dermal - Rabbit - > 5,000 mg/kg

Other information on acute toxicity

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

| | |
|-------------------|--|
| Inhalation | May be harmful if inhaled. Causes respiratory tract irritation. |
| Ingestion | May be harmful if swallowed. |
| Skin | May be harmful if absorbed through skin. Causes skin irritation. |
| Eyes | Causes eye irritation. |

Synergistic effects

No data available

Additional Information

RTECS: OD5075000

12. ECOLOGICAL INFORMATION

Toxicity

| | |
|---|--|
| Toxicity to fish | LC50 - Danio rerio (zebra fish) - 320 mg/l - 96 h mortality NOEC - Danio rerio (zebra fish) - 180 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 560 mg/l - 48 h |

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS**Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN number: 1192 Class: 3 Packing group: III
Proper shipping name: Ethyl lactate
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 1192 Class: 3 Packing group: III EMS-No: F-E, S-D
Proper shipping name: ETHYL LACTATE
Marine pollutant: No

IATA

UN number: 1192 Class: 3 Packing group: III
Proper shipping name: Ethyl lactate

15. REGULATORY INFORMATION**WHMIS Classification**

| | | |
|-----|--|--|
| B3 | Combustible Liquid | Combustible Liquid |
| D2B | Toxic Material Causing Other Toxic Effects | Moderate respiratory irritant Moderate eye irritant |

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION**Further information**

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