

1: Identification of substance / mixture

1. Product Identifier

Substance

Product Name **(R)-Methyl 2-hydroxypropanoate**
Product Code 219745
CAS Number 17392-83-5
Other Names D-(+)-Lactic Acid Methyl Ester
Methyl D-(+)-Lactate
IUPAC
MFCD Number MFCD00004517
EC/EINECS 241-420-6
REACH Number

2. Relevant identified uses of the substance or mixture and uses advised against

Research and Development

3. Details of the supplier of the safety data sheet

Fluorochem Ltd
Unit 14, Graphite Way
Hadfield
Derbyshire
SK13 1QH
UK

Telephone: +44(0)1457 860111
Fax: +44(0)1457 892799
Email: sds@fluorochem.co.uk



4. Emergency telephone number

+44(0)7855 268577 -

2. Hazards Identification

1. Classification of the substance or mixture

| | | |
|------|---------------|--------------------------------|
| H226 | Flam Liq. 3 | R10 |
| H315 | Skin Irrit. 2 | R38, R36/38, R36/37/38, R37/38 |
| H319 | Eye Irrit. 2 | R36, R36/37, R36/38, R36/37/38 |
| H335 | STOT SE 3a | R37, R36/37, R36/37/38, R37/38 |

No Resource File

2. Label elements

Signal Word **Warning**



Hazard Statements

| | |
|------|-----------------------------------|
| H226 | Flammable liquid and vapour. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |

Precautionary Phrases

| | |
|--------------------|--|
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304 + P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P370 + P378 | In case of fire: Use sand, CO2 or extinguishing powder for extinction. |

3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

3. Composition / Information on Ingredients

1. Substances

(R)-Methyl 2-hydroxypropanoate

Assay:100% CAS Number :17392-83-5

2. Mixtures

Not Relevant

4. First Aid Measures

1. Description of first aid measures

| | |
|---------------------|--|
| <i>Skin Contact</i> | P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P332 + P313: If skin irritation occurs: Get medical advice/attention. |
| <i>Eye Contact</i> | P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313: If eye irritation persists: Get medical advice/attention. |
| <i>Ingestion</i> | Wash out mouth with water. |
| <i>Inhalation</i> | P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |

2. Most important symptoms and effects

There may be irritation and redness.

3. Indication of any immediate medical attention

No additional measures required

5. Firefighting measures

1. Extinguishing Media

| | |
|-------------------|--|
| <i>Suitable</i> | P370 + P378: In case of fire: Use sand, CO2 or extinguishing powder for extinction. no data |
| <i>Unsuitable</i> | no data |

2. Special Hazards arising from the substance or mixture

In combustion toxic fumes may form.

3. Advice for Fire Fighters

Wear self-contained breathing apparatus.
Wear protective clothing to prevent contact with skin and eyes.

6. Accidental Release Measures

1. Personal Precautions

Eliminate all sources of ignition.
Do not attempt to take action without suitable protective clothing – see section 8 of SDS.

2. Environmental Precautions

Do not discharge into drains or rivers.
Contain the spillage using bunding.

3. Methods & Materials

Mix with sand or vermiculite.
Transfer to a closable, labelled salvage container for disposal by an appropriate method.

4. Preventing the occurrence of secondary hazards.

No Special Measures Required

7. Handling and Storage

1. Personal Precautions

| | |
|--|--|
| <i>Safe Handling</i> | Ensure there is sufficient ventilation of the area. P240: Ground/bond container and receiving equipment. P264: Wash hands thoroughly after handling. |
| <i>Protection against explosions and fires</i> | P241: Use explosion-proof electrical/ventilating/lighting/. equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P362: Take off contaminated clothing and wash before reuse. |

2. Conditions for safe storage, including any incompatibilities

| | |
|-------------------------------|--|
| <i>Managing Storage Risks</i> | Store in cool, well ventilated area. Keep away from sources of ignition. Keep container tightly closed. Keep away from direct sunlight. |
| <i>Storage Controls</i> | No special requirements |
| <i>Maintaining Integrity</i> | P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P233: Keep container tightly closed. |
| <i>Other advice</i> | P403 + P233: Store in a well-ventilated place. Keep container tightly closed. |

3. Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

8. Exposure Controls/Personal Protection

1. Control Parameters

No Data Available

2. Exposure Controls

| | |
|--|--|
| <i>General protective and hygiene measures</i> | P280: Wear protective gloves/protective clothing/eye protection/face protection. Wash hands during breaks and at the end of handling the material Immediately remove any contaminated clothing |
| <i>Engineering measures</i> | P271: Use only outdoors or in a well-ventilated area. |
| <i>Eye / Face Protection</i> | Safety Glasses with side-shields. |
| <i>Hand protection</i> | Protective gloves. |
| <i>Respiratory protection</i> | P260: Do not breathe dust/fume/gas/mist/vapours/spray. Use breathing protection with high concentrations |
| <i>Skin protection</i> | Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practice. Wash and dry hands. Protective clothing. |
| <i>Other personal protection advice</i> | no data |

9. Physical and Chemical Properties

1. Physical and Chemical Properties

| | |
|---|--|
| Appearance | Clear colourless to almost colourless liquid |
| Odour | Weakly |
| Odour threshold | No Data Available |
| PH | No Data Available |
| Melting point / Freezing point | No Data Available |
| Initial boiling point and boiling range | 33°C/1.1kPa |
| Flash point | 56°C |

| | |
|--|--------------------|
| Evaporation rate | No Data Available |
| Flammability(solid,gas) | No Data Available |
| Upper/lower flammability or explosive limits | Lower: 2.2% |
| Vapour pressure | 0.67kPa/30°C |
| Vapour density | 3.6 |
| Relative density | 1.10 |
| Solubility(ies): | Miscible: Alcohols |
| Partition coefficient: n-octanol/water | No Data Available |
| Auto-ignition temperature | 385°C |
| Decomposition temperature | No Data Available |
| Viscosity | No Data Available |
| Explosive properties | No Data Available |
| Oxidising properties | No Data Available |

2. Other Information

No additional information available

10. Stability and Reactivity

1. Reactivity

no unusual reactivity

2. Stability

Stable under normal conditions.

3. Possibility of Hazardous Reactions

no hazardous reactions known

4. Conditions to Avoid

Moisture sensitive.
Spark, Open flame, Static discharge

5. Incompatible Materials

Oxidising agents.
Strong acids.
Strong bases.

6. Hazardous Decomposition Products

In combustion emits toxic fumes.
In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

11. Toxicology information

1. Information

| | |
|--|--|
| <i>Acute Toxicity</i> | no data |
| <i>Skin corrosion/irritation</i> | irritant for skin and mucous membranes |
| <i>Serious eye Damage/irritation</i> | irritant effect |
| <i>Respiratory or skin sensitisation</i> | No sensitizing effect known |
| <i>Germ Cell mutagenicity</i> | not known |
| <i>Carcinogenicity</i> | not known |
| <i>Reproductive toxicity</i> | not known |
| <i>STOT-single exposure</i> | not known |
| <i>STOT-repeated exposure</i> | not known |

Aspiration hazard not known

2. Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH

12. Ecological Information

1. Toxicity

not known

2. Persistence and degradability

not known

3. Bio-Accumulative Potential

not known

4. Mobility and Soil

not known

5. Results of PBT & vPvB assessment

not known

6. Other adverse effects

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

13. Disposal Considerations

1. Waste Treatment Methods

Disposal Operations

Disposal of Packaging Disposal must be made according to official regulations.

14. Transport Information

Air (ICAO)

1. **UN Number:** 3272
2. **Shipping Name:** Esters, n.o.s. ((R)-Methyl 2-hydroxypropanoate)
3. **Transport hazard class(es):** : 3 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Road (ADR)

1. **UN Number:** 3272
2. **Shipping Name:** ESTERS, N.O.S.
3. **Transport hazard class(es):** : 3 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**

6. Special Precautions for user: For the purposes of documentation and package marking, the Proper Shipping Name shall be supplemented with the technical name (see 3.1.2.8.1).

7. Transport in bulk:

Sea (IMDG)

1. UN Number: 3272

2. Shipping Name: Esters, n.o.s. ((R)-Methyl 2-hydroxypropanoate)

3. Transport hazard class(es): 3 Sub Class :



4. Packing group: III

5. Environmental hazards:

6. Special Precautions for user: The packages, including bales, are exempt from labelling provided that they are marked with the appropriate class (e.g., "class 4.2"). Packages, with the exception of bales, shall also display the Proper Shipping Name and the UN number of the substance that they contain in accordance with 5.2.1. In any case, the packages, including bales, are exempt from class marking provided that they are loaded in a cargo transport unit and that they contain goods to which only one UN Number has been assigned. The cargo transport units in which the packages, including bales, are loaded shall display any relevant labels, placards and marks in accordance with chapter 5.3.

7. Transport in bulk: IBCINS: IBC03

UNTANKINS: T4
TANKPROV: TP1 TP29

15. Safety, health, environmental and national regulations

1. Safety, health, environmental and national regulations:

product is not subject to any additional regulations or provisions

2. Safety Assessment

No Chemical Safety Assessment

16. Other Information

1. Other Information:

ADR: Accord Europeen sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)

RID:Reglement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association

ICAO:International Civil Aviation Organization

ICAO-TI: Technical Instructions by the ICAO

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS:Chemical Abstracts Service

2. Associated risk phrases according to european directive 67/548/EEC

| | |
|-----------|--|
| R10 | Flammable. |
| R36 | Irritating to eyes. |
| R36/37 | Irritating to eyes and respiratory system. |
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R36/38 | Irritating to eyes and skin. |
| R37 | Irritating to respiratory system. |
| R37/38 | Irritating to respiratory system and skin. |
| R38 | Irritating to skin. |



3. Disclaimer

The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user.