# Chemical Safety Data Sheet MSDS / SDS

# Methyl (R)-(+)-lactate

Revision Date: 2025-05-03 Revision Number: 1

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### **Product identifier**

Product name : Methyl (R)-(+)-lactate

CBnumber : CB5694817

CAS : 17392-83-5

EINECS Number : 241-420-6

Synonyms: methyl (R)-2-hydroxypropanoate,D-Methyl Lactate

#### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.

Uses advised against : none

# **Company Identification**

Company : Chemicalbook

Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing

Telephone : 010-86108875

# SECTION 2: Hazards identification

# GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word Warning

#### Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

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

P264 Wash hands thoroughly after handling.

P264 Wash skin thouroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

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.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continuerinsing.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container to.....

#### Hazard statements

H226 Flammable liquid and vapour

H319 Causes serious eye irritation

H335 May cause respiratory irritation

# SECTION 3: Composition/information on ingredients

#### Substance

Product name : Methyl (R)-(+)-lactate

Synonyms: methyl (R)-2-hydroxypropanoate,D-Methyl Lactate

CAS : 17392-83-5
EC number : 241-420-6
MF : C4H8O3
MW : 104.1

# SECTION 4: First aid measures

#### Description of first aid measures

# General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### 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.

# Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### Indication of any immediate medical attention and special treatment needed

No data available

# SECTION 5: Firefighting measures

# **Extinguishing media**

#### Suitable extinguishing media

Dry powder Dry sand

#### Unsuitable extinguishing media

Do NOT use water jet.

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

Carbon oxides

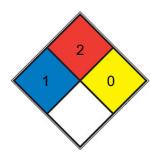
#### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### **Further information**

Use water spray to cool unopened containers.

# **NFPA 704**



HEALTH 1 Exposure would cause irritation with only minor residual injury (e.g. acetone, sodium bromate, potassium chloride)

Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely divided suspended solids that do not require heating before ignition can occur. Flash point between 37.8 and 93.3 °C (100

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, N2)

SPEC.

HAZ.

FIRE

# SECTION 6: Accidental release measures

and 200 °F). (e.g. diesel fuel, sulfur)

# Personal precautions, protective equipment and emergency procedures

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. For personal protection see section 8.

#### **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 non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in Chemical Book

container for disposal according to local / national regulations (see section 13).

#### Reference to other sections

For disposal see section 13.

# SECTION 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.

For precautions see section 2.2.

# Conditions for safe storage, including any incompatibilities

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. Store in cool place.

#### Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# SECTION 8: Exposure controls/personal protection

#### control parameter

# Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

#### **Exposure controls**

#### Appropriate engineering controls

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

#### Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin 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.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

**Body Protection** 

Impervious clothing, 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.

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).

Control of environmental exposure

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

# SECTION 9: Physical and chemical properties

# Information on basic physicochemical properties

| Appearance                              | colourless liquid   |
|-----------------------------------------|---------------------|
| Odour                                   | No data available   |
| Odour Threshold                         | No data available   |
| рН                                      | No data available   |
| Melting point/freezing point            | No data available   |
| Initial boiling point and boiling range | 144 - 145 °C - lit. |
| Flash point                             | 49 °C - closed cup  |
| Evaporation rate                        | No data available   |
| Flammability (solid, gas)               | No data available   |
| Upper/lower flammability or explosive   | No data available   |
| limits                                  |                     |
| Vapour pressure                         | No data available   |
| Vapour density                          | No data available   |
| Relative density                        | 1,09 g/cm3 at 25 °C |
| Water solubility                        | No data available   |
| Partition coefficient: n-octanol/water  | No data available   |
| Autoignition temperature                | No data available   |
| Decomposition temperature               | No data available   |
| Viscosity                               | No data available   |
| Explosive properties                    | No data available   |
| Oxidizing properties                    | No data available   |

# Other safety information

No data available

# SECTION 10: Stability and reactivity

# Reactivity

No data available

# **Chemical stability**

Stable under recommended storage conditions.

# Possibility of hazardous reactions

No data available

# **Conditions to avoid**

Heat, flames and sparks.

#### Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases

#### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

# **SECTION 11: Toxicological information**

# Information on toxicological effects

#### Acute toxicity

No data available

#### 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.

# Reproductive toxicity

No data available

# Specific target organ toxicity - single exposure

May cause respiratory irritation.

# Specific target organ toxicity - repeated exposure

No data available

# **Aspiration hazard**

No data available

#### **Additional Information**

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**SECTION 12: Ecological information** 

# **Toxicity**

No data available

# Persistence and degradability

No data available

#### **Bioaccumulative potential**

No data available

# Mobility in soil

No data available

#### Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

# Other adverse effects

No data available

# **SECTION 13: Disposal considerations**

# Waste treatment methods

# **Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

# Contaminated packaging

Dispose of as unused product.

# **SECTION 14: Transport information**

# **UN** number

ADR/RID: 3272 IMDG: 3272 IATA: 3272

# **UN** proper shipping name

ADR/RID: ESTERS, N.O.S. (Methyl (R)-lactate) IMDG: ESTERS, N.O.S. (Methyl (R)-lactate) IATA: Esters, n.o.s. (Methyl (R)-lactate)

Transport hazard class(es)

ADR/RID: 3 IMDG: 3

IATA: 3

Packaging group

4.4

ADR/RID: III IMDG: III IATA: III

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no

no

Special precautions for user

14.6

No data available

# SECTION 15: Regulatory information

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

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: https://www.mem.gov.cn/

#### Measures for Environmental Management of New Chemical Substances

United States Toxic Substances Control Act (TSCA) Inventory:Not Listed. website: https://www.epa.gov/

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Not Listed. website: https://emb.gov.ph/

New Zealand Inventory of Chemicals (NZIoC):Not Listed. website: https://www.epa.govt.nz/

Korea Existing Chemicals List (KECL):Not Listed. website: http://ncis.nier.go.kr

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Not Listed. website: https://www.mee.gov.cn/

Vietnam National Chemical Inventory:Listed. website: https://chemicaldata.gov.vn/

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: https://echa.europa.eu/

EC Inventory:Listed.

# SECTION 16: Other information

#### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit TWA: Time Weighted Average

# References

[1] CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

[2] ChemlDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

[3] ECHA - European Chemicals Agency, website: https://echa.europa.eu/

[4] eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

http://www.echemportal.org/echemportal/index?pageID=0&request\_locale=en

- [5] ERG Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- [6] Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- [7] HSDB Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- [8] IARC International Agency for Research on Cancer, website: http://www.iarc.fr/
- [9] IPCS The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- 【10】 Sigma-Aldrich, website: https://www.sigmaaldrich.com/

#### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.