According to Regulation (EC) No 1907/2006

Ethyl lactate

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

1.1. Product identifier

Trade name

Ethyl lactate

EC number

202-598-0

Synonyms

2-ethoxypropanoic acid

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

Relevant identified uses

Research and development.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Street address
Molekula Ltd, Lingfield Way, Darlington,
DL1 4XX Darlington
United Kingdom

Telephone
+44 (0) 3302 000 333

Email
info@molekula.com

Web site
www.molekula.com

Contact person

Kevin Banks

Email address

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

Ethyl lactate

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Serious eye damage, hazard category 1
Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation
Flammable liquids, hazard category 3
Skin irritation, hazard category 2

Hazard statements

H226, H315, H318, H335

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303 + P361 + P353 IF ON SKIN (or hair): 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. Continue rinsing.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
ethyl lactate; ethyl DL-lactate	97-64-3 202-598-0 01-2120809949-37 607-129-00-7	100%	Flam. Liq. 3, Eye Dam. 1, STOT SE 3 - resp. tract irrit.	H226, H318, H335 - -	C

Molecular weight
118.13

Substance additional information
For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

IF exposed or concerned: Get medical advice/attention. First aiders/ medical personnel need to protect themselves. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing stops, provide artificial respiration. For breathing difficulties oxygen may be necessary.

Skin contact
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/doctor.

Eye contact
Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

Ingestion
IF SWALLOWED: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only if the persons are fully conscious and awake). Administer activated charcoal (20 - 40g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

Information for doctors
No data available.

4.2. Most important symptoms and effects, both acute and delayed

The severity of the symptoms described will vary dependant of the concentration and the length of exposure. Causes burns by all exposure routes.
See section 11 for more detailed information on health effects and symptoms.

Inhalation

Single exposure may cause the following adverse effects: Causes severe burns. Difficulty in breathing. Unconsciousness, possibly death.

Skin contact

Single exposure may cause the following adverse effects: Causes severe burns. Blistering may occur. May be absorbed in the body and cause dizziness, nausea and vomiting. Unconsciousness, death.

Eye contact

Single exposure may cause the following adverse effects: Causes serious eye damage. Unconsciousness, possibly death.

Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. May cause severe internal injury. Unconsciousness, possibly death.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Immediately call a POISON CENTER/doctor.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

Unsuitable extinguishing media

No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture

Specific hazards: Corrosive.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO2). Combustible. Explosive mixtures may be formed at elevated temperatures

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Avoid contact with skin and eyes. For personal protection, see section 8.

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

Ethyl lactate

6.3. Methods and material for containment and cleaning up

Collect with absorbent, non-combustible material into suitable containers.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Store in a dry place. Store in a closed container.
Store at ambient temperature.

7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No data available

8.2. Exposure controls

Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves. Recommended gloves:
Glove Thickness:
Breakthrough time: hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling.

Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls

Avoid discharge into drains.

Ethyl lactate

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state
Liquid

Colour
Colourless.

Odour
No data available

Melting point / freezing point
No data available

Boiling point or initial boiling point and boiling range
No data available

Flammability
No data available

Lower and upper explosion limit
No data available

Flash point
46 °C
Method
CC (Closed cup).

Auto-ignition temperature
No data available

Decomposition temperature
No data available

pH
No data available

Kinematic viscosity
No data available

Solubility
100g/l at 20□

Partition coefficient n-octanol/water
No data available

Vapour pressure
3 hPa at 20 °C

Density and/or relative density
1.031 g/cm3 at 25 °C - lit.1.031 g/cm3 at 25 °C

Relative vapour density
No data available

Particle characteristics
No data available

9.2. Other information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
Explosive mixtures may be formed at elevated temperatures

10.2. Chemical stability
Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions
No data available

10.4. Conditions to avoid
Heating.

10.5. Incompatible materials
Strong oxidising agents.

10.6. Hazardous decomposition products
See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Test animals	Remarks
ethyl lactate; ethyl DL-lactate 97-64-3 / 202-598-0	Acute Toxicity (Oral LD50):	2000 mg/kg	Rat	-
ethyl lactate; ethyl DL-lactate 97-64-3 / 202-598-0	Acute Toxicity (Dermal LD50):	5000 mg/kg	Rabbit	RTECS

Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Species
ethyl lactate; ethyl DL-lactate 97-64-3 / 202-598-0	Irritating.	Skin corrosion/irritation - Human skin model test:

Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result
ethyl lactate; ethyl DL-lactate 97-64-3 / 202-598-0	Irreversible effects on the eye

Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Test type
ethyl lactate; ethyl DL-lactate 97-64-3 / 202-598-0	Negative.	Direct Peptide Reactivity Assay (DPRA)
ethyl lactate; ethyl DL-lactate 97-64-3 / 202-598-0	Negative.	KeratinoSens assay - Not tested on animals

Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result	Metabolic activation / Exposure	Species
ethyl lactate; ethyl DL-lactate 97-64-3 / 202-598-0	Negative.	with and without metabolic activation	-
ethyl lactate; ethyl DL-lactate 97-64-3 / 202-598-0	Negative.	with and without metabolic activation	human lymphocytes

Carcinogenicity
Based on available data, the classification criteria are not met.

STOT-single exposure
Based on available data, the classification criteria are not met.

STOT-repeated exposure
Based on available data, the classification criteria are not met.

Aspiration hazard
Based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Species
ethyl lactate; ethyl DL-lactate 97-64-3 / 202-598-0	LC50	320 mg/l	Brachydanio rerio (Zebra Fish)

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of contents/container in accordance with local regulations.

SECTION 14: Transport information

14.1. UN number

1192

14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

ETHYL LACTATE

IMDG proper shipping name

ETHYL LACTATE

IATA proper shipping name

Ethyl lactate

Ethyl lactate

14.3. Transport hazard class(es)

Label

ADR/RID/ADN

3

IMDG

3

IATA

3

ADR / RID Class

3

ADR / RID Classification code

F1

ADR / RID hazard identification number

30

IMDG Class

3

IATA Class

3

ADN Class

3

ADN Class Code

F1

14.4. Packing group

ADR / RID / ADN: III
IMDG: III
IATA: III

14.5. Environmental hazards

IMDG EmS

F-E, S-D

14.6. Special precautions for user

Tunnel restriction code: D/E

Transport category: 3

14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC03

SECTION 15: Regulatory information

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

National regulations

No data available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Phrase meaning

Eye Dam. 1 - Serious eye damage, hazard category 1

STOT SE 3 - resp. tract irrit. - Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation

Flam. Liq. 3 - Flammable liquids, hazard category 3

Skin Irrit. 2 - Skin irritation, hazard category 2

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.