

SAFETY DATA SHEET

2309 110 | ETHYL LACTATE

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Die in diesem Produktdatenblatt genannten Spezifikationen dienen nur zur Produktbeschreibung und beziehen sich auf den Zeitpunkt unmittelbar nach der Produktion bzw. Import des Produktes. Sie entsprechen den Angaben des Herstellers. Eine rechtsverbindliche Zusicherung bestimmter Eigenschaften oder der Eignung für einen bestimmten Einsatzzweck kann hieraus nicht abgeleitet werden. Durch unsachgemäßen Transport und / oder unsachgemäße Lagerung können sich Änderungen ergeben. Die Angaben in diesem Produktdatenblatt entbinden den Verarbeiter nicht von eigener Prüfung der Eigenschaften des Produktes und dessen Eignung für die vorgesehene Verwendung.

Ethyl lactate

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 5/6/2011 Revision date: 7/5/2018 Supersedes: 11/18/2015 Version: 6.0

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

1.1. Product identifier

Product form : Substance
Name : Ethyl lactate
EC Index-No. : 607-129-00-7
EC-No. : 211-694-1
CAS-No. : 687-47-8
REACH registration No : 01-2119516234-49-0002
Product code : Ethyl lactate
Synonyms : Ethyl (S)-2-Hydroxypropionate

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Manufacture of cosmetic products
Manufacturing of cleaning and maintenance products
Industrial and professional use of cleaning and maintenance products
Industrial formulation of lubricant additives, lubricants, greases and heat transfer fluids
Industrial handling and dilution of metalworking fluids concentrates
Industrial and professional use of lubricants in high energy open processes
Formulation and use of chemicals
Manufacture of anti-freeze and de-icing products
Manufacture of painted glass articles
Manufacture of electrical equipment
Coformulant in plant protection products
(See exposure scenario(s) nr 1)
End use of cosmetic products
Consumer use of cleaning and maintenance products
Scented articles
Coformulant in plant protection products
(See exposure scenario(s) nr 2)

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Deffner & Johann GmbH
Mühlackerstr. 13
97520 Rötthlein
Tel.: +49 9723 9350-0
Email: info@deffner-johann.de
www.deffner-johann.de

1.4. Emergency telephone number

Tel. +49 9723 9350-0 (Mo. - Fr.: 8:00 - 15:00 Uhr)

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital, Guy's & St Thomas' Hospital Trust	Dudley Road B18 7QH Birmingham	0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)	-
USA	American Association of Poison Control Centers	515 King Street, Suite 510 VA 22314 Alexandria	1-800-222-1222	

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 3	H226
Eye Dam. 1	H318
STOT SE 3	H335

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

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

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

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

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P280 - Wear protective gloves, protective clothing, 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.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

Other hazards not contributing to the classification : None, to our knowledge.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ethyl lactate	(CAS-No.) 687-47-8 (EC-No.) 211-694-1 (EC Index-No.) 607-129-00-7 (REACH-no) 01-2119516234-49-0002	> 98	Flam. Liq. 3, H226 Eye Dam. 1, H318 STOT SE 3, H335

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Move the affected person away from the contaminated area and into the fresh air. If irritation persists, consult a doctor.
First-aid measures after skin contact	: Remove all contaminated clothing and footwear. Rinse immediately with plenty of water. In case of redness or irritation, call a doctor.

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First-aid measures after eye contact	: Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist immediately, even if there are no immediate symptoms.
First-aid measures after ingestion	: If the person is fully conscious, try to induce vomiting. Get medical advice/attention.

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

Symptoms/effects after inhalation	: Irritation of the respiratory tract.
Symptoms/effects after eye contact	: Serious damage to eyes.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Carbon dioxide (CO ₂). Foam.
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5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable liquid and vapour.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon oxides (CO, CO ₂).

5.3. Advice for firefighters

Firefighting instructions	: Cool down the containers exposed to heat with a water spray. Contain the extinguishing fluids by bunding.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Avoid contact with skin and eyes. Do not breathe vapours. In case of important spillage : Only qualified personnel equipped with suitable protective equipment may intervene.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Contain the spilled material by bunding. Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

For containment	: Liquid spill: take up in sand, earth, vermiculite.
Methods for cleaning up	: Wash non-recoverable remainder with large amounts of water.
Other information	: Dispose of contaminated materials in accordance with current regulations.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe vapours. Avoid the build-up of electrostatic charge. Ground/bond container and receiving equipment. Do not smoke. No flames, no sparks. Eliminate all sources of ignition.
Handling temperature	: < 59 °C
Hygiene measures	: Do not drink, eat or smoke in the workplace. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
Storage conditions	: Keep container tightly closed and dry. Protect from heat and direct sunlight. Keep away from ignition sources. Store under inert atmosphere.
Incompatible products	: Strong oxidizing agents.
Packaging materials	: Polyethylene.

7.3. Specific end use(s)

Not applicable.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ethyl lactate (687-47-8)	
PNEC (Water)	
PNEC aqua (freshwater)	0.32 mg/l
PNEC aqua (marine water)	0.032 mg/l
PNEC aqua (intermittent, freshwater)	3.2 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1.66 mg/kg dwt
PNEC sediment (marine water)	0.166 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.145 mg/kg dwt

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Gloves. Face-shield.

Hand protection:

Impermeable protective gloves (PVA/H4). Breakthrough time (min) : >480

Eye protection:

Face-shield

Skin and body protection:

Protective clothing

Respiratory protection:

If the ventilation is suitable, it is not essential to wear respiratory equipment. Mist formation: aerosol mask with filter type P2

Personal protective equipment symbol(s):



Environmental exposure controls:

Take all necessary precautions to avoid the accidental release of the product outside, due to the rupture of containers or transfer systems.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: No data available
Odour	: ester like.
Odour threshold	: Not established
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -9 °C (1013 hPa)
Freezing point	: Not required
Boiling point	: 154 °C
Flash point	: 56 °C
Auto-ignition temperature	: 400 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: 1.8 mbar (20 °C)
Relative vapour density at 20 °C	: 4.07
Relative density	: No data available

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Solubility	: Water: Soluble
Log Pow	: 0.31
Viscosity, kinematic	: 3.6 mm ² /s (20 °C)
Viscosity, dynamic	: 2.8 mPa.s (20 °C)
Explosive properties	: Not applicable.
Oxidising properties	: Not applicable.
Explosive limits	: 1.5 - 11.4

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

To our knowledge, the product does not present any particular risk.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

Can react violently with : Strong oxidizing agents.

10.4. Conditions to avoid

High temperature. Hydrolyzes on exposure to with (some) acids/bases.

10.5. Incompatible materials

Strong oxidizing agents. Attacks some forms of plastics, rubber, and coatings.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Lack of data)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

Ethyl lactate (687-47-8)	
LD50 oral rat	> 2000 mg/kg (OECD 401)
LC50 inhalation rat	> 5.4 mg/l/4h (OECD 403)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met. OECD 404)
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met. OECD 429. Respiratory sensitisation : Lack of data)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met. OECD 471, 473 & 476)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Lack of data)
Ethyl lactate (687-47-8)	
Viscosity, kinematic	3.6 mm ² /s (20 °C)

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

Ethyl lactate (687-47-8)	
LC50 fish	320 mg/l (96 Hours) (Danio rerio)(OECD 203 method)
EC50 Daphnia	683 mg/l (Daphnia magna, 48h)(OECD 202 method)
ErC50 (algae)	2300 mg/l (Pseudokirchnerella subcapitata, 96h)(OECD 201 method)

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12.2. Persistence and degradability

Ethyl lactate (687-47-8)

Persistence and degradability	Readily biodegradable. 85 % biodegradation /. 28 days (EU Method C5&C6).
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12.3. Bioaccumulative potential

Ethyl lactate (687-47-8)

Log Pow	0.31
Bioaccumulative potential	Not bioaccumulable.

12.4. Mobility in soil

Ethyl lactate (687-47-8)

Mobility in soil	Small adsorption
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12.5. Results of PBT and vPvB assessment

Ethyl lactate (687-47-8)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

Results of PBT assessment	The product does not meet the PBT and vPvB classification criteria
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12.6. Other adverse effects

No additional information available






SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of in accordance with relevant local regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1192	1192	1192	1192	1192
14.2. UN proper shipping name				
ETHYL LACTATE	ETHYL LACTATE	Ethyl lactate	ETHYL LACTATE	ETHYL LACTATE
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	: F1
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T2
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 3

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Special provisions for carriage - Packages (ADR) : V12

Special provisions for carriage - Operation (ADR) : S2

Hazard identification number (Kemler No.) : 30

Orange plates :



Tunnel restriction code (ADR) : D/E

EAC code : •2Y

- Transport by sea

Limited quantities (IMDG) : 5 L

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : P001, LP01

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T2

Tank special provisions (IMDG) : TP1

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-D

Stowage category (IMDG) : A

MFAG-No : 129

- Air transport

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y344

PCA limited quantity max net quantity (IATA) : 10L

PCA packing instructions (IATA) : 355

PCA max net quantity (IATA) : 60L

CAO packing instructions (IATA) : 366

CAO max net quantity (IATA) : 220L

ERG code (IATA) : 3L

- Inland waterway transport

Classification code (ADN) : F1

Limited quantities (ADN) : 5 L

Excepted quantities (ADN) : E1

Equipment required (ADN) : PP, EX, A

Ventilation (ADN) : VE01

Number of blue cones/lights (ADN) : 0

- Rail transport

Classification code (RID) : F1

Limited quantities (RID) : 5L

Excepted quantities (RID) : E1

Packing instructions (RID) : P001, IBC03, LP01, R001

Mixed packing provisions (RID) : MP19

Portable tank and bulk container instructions (RID) : T2

Portable tank and bulk container special provisions (RID) : TP1

Tank codes for RID tanks (RID) : LGBF

Transport category (RID) : 3

Special provisions for carriage – Packages (RID) : W12

Colis express (express parcels) (RID) : CE4

Hazard identification number (RID) : 30

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Ethyl lactate is not on the REACH Candidate List

Ethyl lactate is not on the REACH Annex XIV List

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

This sheet was updated (refer to the date at the top of this page).

Data sources : CSR (Chemical safety report). IUCLID. HSDB (Hazardous Substances Data Bank).

Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product