

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 8.1

Revision Date 30.06.2021

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

### 1.1 Product identifiers

Product name : Ethyl acetate

Product Number : 270989

Brand : Sigma-Aldrich

Index-No. : 607-022-00-5

REACH No. : 01-2119475103-46-XXXX

CAS-No. : 141-78-6

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

Identified uses : Laboratory chemicals, Manufacture of substances

### 1.3 Details of the supplier of the safety data sheet

Company : Merck Life Science S.r.l.  
Via Monte Rosa 93  
I-20149 MILANO

Telephone : +39 02 3341 7340

Fax : +39 02 3801 0737

E-mail address : [serviziotecnico@merckgroup.com](mailto:serviziotecnico@merckgroup.com)

### 1.4 Emergency telephone

Emergency Phone # : 800-789-767 (CHEMTREC Italia)  
+39-02-4555-7031 (CHEMTREC chiamate internazionali)  
+39 02-6610-1029 (Centro Antiveleni Niguarda Ca' Granda - Milano)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Eye irritation (Category 2), H319

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008



Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapor.

H319

Causes serious eye irritation.

H336

May cause drowsiness or dizziness.

Precautionary statement(s)

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.

P241

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242

Use non-sparking tools.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU)

EUH066

Repeated exposure may cause skin dryness or cracking.

### Reduced Labeling (<= 125 ml)

Pictogram



Signal word

Danger

Hazard statement(s)

none

Precautionary statement(s)

none

Supplemental Hazard information (EU)

EUH066

Repeated exposure may cause skin dryness or cracking.

## 2.3 Other hazards

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.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula : C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>  
Molecular weight : 88,11 g/mol  
CAS-No. : 141-78-6  
EC-No. : 205-500-4  
Index-No. : 607-022-00-5

Component	Classification	Concentration
<b>ethyl acetate</b>		
CAS-No.	141-78-6	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3; H225, H319, H336
EC-No.	205-500-4	
Index-No.	607-022-00-5	
		<= 100 %



	Concentration limits: 20 %: STOT SE 3, H336;	
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For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### 4.2 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

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

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>) Foam Dry powder

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

Carbon oxides

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Risk of dust explosion.

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

### 5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

### 5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.



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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

### 7.3 Specific end use(s)

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

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

#### Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Workers	Inhalation	Acute systemic effects	1468 mg/m <sup>3</sup>
Workers	Inhalation	Acute local effects	1468 mg/m <sup>3</sup>
Workers	Skin contact	Long-term systemic effects	63mg/kg BW/d
Workers	Inhalation	Long-term systemic effects	734 mg/m <sup>3</sup>



Workers	Inhalation	Long-term local effects	734 mg/m <sup>3</sup>
Consumers	Inhalation	Acute local effects, Acute systemic effects	734 mg/m <sup>3</sup>
Consumers	Skin contact	Long-term systemic effects	37mg/kg BW/d
Consumers	Inhalation	Long-term systemic effects	367 mg/m <sup>3</sup>
Consumers	Ingestion	Long-term systemic effects	4,5mg/kg BW/d
Consumers	Inhalation	Long-term local effects	367 mg/m <sup>3</sup>

### **Predicted No Effect Concentration (PNEC)**

Compartment	Value
Soil	0,24 mg/kg
Sea water	0,026 mg/l
Fresh water	0,26 mg/l
Sea sediment	0,125 mg/kg
Fresh water sediment	1,25 mg/kg

## **8.2 Exposure controls**

### **Personal protective equipment**

#### **Eye/face protection**

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

#### **Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0,7 mm

Break through time: 120 min

Material tested: Butoject® (KCL 898)

#### **Body Protection**

Flame retardant antistatic protective clothing.

#### **Respiratory protection**

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### **Control of environmental exposure**

Do not let product enter drains. Risk of explosion.



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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |   |  |
|---|--|
| a) Appearance                                   | Form: clear, liquid<br>Color: colorless  |
| b) Odor   | No data available  |
| c) Odor Threshold                               | No data available  |
| d) pH   | No data available  |
| e) Melting point/freezing point                 | Melting point/range: -84 °C  |
| f) Initial boiling point and boiling range      | 76,5 - 77,5 °C   |
| g) Flash point                                  | -4 °C - closed cup   |
| h) Evaporation rate                             | No data available  |
| i) Flammability (solid, gas)                    | No data available  |
| j) Upper/lower flammability or explosive limits | Lower explosion limit: 2,2 %(V)  |
| k) Vapor pressure                               | No data available  |
| l) Vapor density                                | No data available  |
| m) Relative density                             | No data available  |
| n) Water solubility                             | No data available  |
| o) Partition coefficient: n-octanol/water       | No data available  |
| p) Autoignition temperature                     | No data available  |
| q) Decomposition temperature                    | No data available  |
| r) Viscosity                                    | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| s) Explosive properties                         | No data available  |
| t) Oxidizing properties                         | No data available  |

### 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapors may form explosive mixture with air.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with:



Exothermic reaction with:  
Fluorine  
chlorosulfonic acid  
Strong oxidizing agents  
fuming sulfuric acid  
Risk of explosion with:  
lithium aluminium hydride  
Alkali metals  
hydrides  
Alkaline earth metals  
Violent reactions possible with:  
Strong acids and strong bases

#### **10.4 Conditions to avoid**

Warming.

#### **10.5 Incompatible materials**

various plastics

#### **10.6 Hazardous decomposition products**

In the event of fire: see section 5

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### **SECTION 11: Toxicological information**

#### **11.1 Information on toxicological effects**

##### **Acute toxicity**

LD50 Oral - Rat - 5.620 mg/kg

Remarks: (RTECS)

Inhalation: No data available

LD50 Dermal - Rabbit - male - > 20.000 mg/kg

Remarks: (ECHA)

##### **Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation

Remarks: (IUCLID)

##### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: slight irritation

(OECD Test Guideline 405)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

##### **Respiratory or skin sensitization**

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

##### **Germ cell mutagenicity**

Test Type: UDS (Unscheduled DNA synthesis assay)

Test system: Escherichia coli

Metabolic activation: with and without metabolic activation

Method: US-EPA

Result: negative

Test Type: Ames test



Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

Test Type: Micronucleus test  
Species: Chinese hamster  
Cell type: Red blood cells (erythrocytes)  
Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative

#### **Carcinogenicity**

No data available

#### **Reproductive toxicity**

No data available

#### **Specific target organ toxicity - single exposure**

May cause drowsiness or dizziness. - Central nervous system

#### **Specific target organ toxicity - repeated exposure**

No data available

#### **Aspiration hazard**

No data available

### **11.2 Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - 92 Days - NOAEL (No observed adverse effect level) - 900 mg/kg - LOAEL (Lowest observed adverse effect level) - 3.600 mg/kg

RTECS: AH5425000

Inhalation of high concentrations may cause:, Headache, Drowsiness, Dizziness, Vomiting, narcosis, anemia, Central nervous system depression

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

Kidney - Irregularities - Based on Human Evidence

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 230 mg/l - 96 h (US-EPA)
Toxicity to algae	static test NOEC - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)





## 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 20 d  
Result: ca.69 % - Readily biodegradable.  
Remarks: (ECHA)

Theoretical oxygen demand 1.820 mg/g  
Remarks: (Lit.)

## 12.3 Bioaccumulative potential

No data available

## 12.4 Mobility in soil

No data available

## 12.5 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.

## 12.6 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1173                          IMDG: 1173                          IATA: 1173

### 14.2 UN proper shipping name

ADR/RID: ETHYL ACETATE  
IMDG: ETHYL ACETATE  
IATA: Ethyl acetate

### 14.3 Transport hazard class(es)

ADR/RID: 3                          IMDG: 3                          IATA: 3

### 14.4 Packaging group

ADR/RID: II                          IMDG: II                          IATA: II

### 14.5 Environmental hazards

ADR/RID: no                          IMDG Marine pollutant: no                          IATA: no

### 14.6 Special precautions for user

No data available

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## SECTION 15: Regulatory information

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

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The life science business of Merck operates as MilliporeSigma in the US and Canada



This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

### **National legislation**

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : FLAMMABLE LIQUIDS

### **Other regulations**

Take note of Dir 94/33/EC on the protection of young people at work.

## **15.2 Chemical Safety Assessment**

A Chemical Safety Assessment has been carried out for this substance.

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## **SECTION 16: Other information**

### **Full text of H-Statements referred to under sections 2 and 3.**

EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapor.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

### **Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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