

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 05.10.2017

Version 5.0

**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No. 821078

Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

REACH Registration Number A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. 10482-56-1

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

Identified uses Chemical for synthesis  
For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).

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

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0

Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)

**1.4 Emergency telephone number** Please contact the regional company representation in your country.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

---

## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

Skin irritation, Category 2, H315

Eye irritation, Category 2, H319

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

### 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008)**

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H315 Causes skin irritation.

H319 Causes serious eye irritation.

*Precautionary statements*

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

## Reduced labelling ( $\leq 125$ ml)

*Hazard pictograms*



*Signal word*

Warning

CAS-No. 10482-56-1

## 2.3 Other hazards

None known.

---

## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula  $C_{10}H_{18}O$  (Hill)  
EC-No. 233-986-8  
Molar mass 154,25 g/mol

### Hazardous components (REGULATION (EC) No 1272/2008)

*Chemical name (Concentration)*

CAS-No.	Registration number	Classification
(S)-(-)-p-menth-1-en-8-ol ( $\leq 100\%$ )		
10482-56-1	*)	Skin irritation, Category 2, H315 Eye irritation, Category 2, H319

\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

### 3.2 Mixture

Not applicable

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

---

## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

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

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

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

irritant effects

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

No information available.

---

## 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

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

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

### 5.3 Advice for firefighters

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

### *Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### *Further information*

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system. Suppress (knock down) gases/vapours/mists with a water spray jet.

---

## **SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

### **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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### **6.4 Reference to other sections**

Indications about waste treatment see section 13.

---

## **SECTION 7. Handling and storage**

### **7.1 Precautions for safe handling**

#### *Advice on safe handling*

Observe label precautions.

---

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

### *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*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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

### *Storage conditions*

Tightly closed. Dry.

Recommended storage temperature see product label.

## **7.3 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**

### **8.1 Control parameters**

### **8.2 Exposure controls**

#### **Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### **Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Safety glasses

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

## *Hand protection*

full contact:

Glove material: Nitrile rubber  
Glove thickness: 0,40 mm  
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 30 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 730 Camatril® -Velours (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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)).

## *Other protective equipment*

protective clothing

## *Respiratory protection*

required when dusts/vapours/aerosols are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

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.

## **Environmental exposure controls**

Do not let product enter drains.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

---

## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	crystalline
Colour	white
Odour	pleasant
Odour Threshold	No information available.
pH	No information available.
Melting point	36 °C
Boiling point/boiling range	215 - 217 °C at 1.013 hPa
Boiling point/boiling range	99 - 102 °C at 20 hPa
Flash point	90 °C Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

Relative vapour density	No information available.
Density	0,935 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	at 20 °C insoluble
Partition coefficient: n-octanol/water	log Pow: 2,57 (experimental) Bioaccumulation is not expected. (HSDB)
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

none

---

## SECTION 10. Stability and reactivity

### 10.1 Reactivity

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

## 10.2 Chemical stability

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

## 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Bases, acids, Oxidizing agents, Acid anhydrides, Acid chlorides

## 10.4 Conditions to avoid

Strong heating.

## 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

no information available

---

## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### *Acute oral toxicity*

LD50 Rat: 4.300 mg/kg

(External MSDS)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

#### *Acute inhalation toxicity*

Symptoms: Possible symptoms:., mucosal irritations

#### *Acute dermal toxicity*

LD50 Rat: > 5.000 mg/kg

(External MSDS)

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

## *Skin irritation*

|| Causes skin irritation.

## *Eye irritation*

human

Result: Eye irritation

(HSDB)

Causes serious eye irritation.

## *Sensitisation*

This information is not available.

## *Germ cell mutagenicity*

This information is not available.

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

## 11.2 Further information

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

---

## SECTION 12. Ecological information

### 12.1 Toxicity

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

## *Toxicity to fish*

|| LC50 *Oncorhynchus mykiss* (rainbow trout): 10 - 100 mg/l; 96 h  
|| (HSDB)

### **12.2 Persistence and degradability**

No information available.

### **12.3 Bioaccumulative potential**

*Partition coefficient: n-octanol/water*

log Pow: 2,57

(experimental)

Bioaccumulation is not expected. (HSDB)

### **12.4 Mobility in soil**

No information available.

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### **12.6 Other adverse effects**

*Additional ecological information*

When discharged properly, no impairments in the function of adapted biological wastewater treatment plants are to be expected.

Discharge into the environment must be avoided.

---

## **SECTION 13. Disposal considerations**

*Waste treatment methods*

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.

---

## **SECTION 14. Transport information**

**Land transport (ADR/RID)**

**14.1 - 14.6** Not classified as dangerous in the meaning of transport regulations.

**Inland waterway transport (ADN)**

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

Not relevant

## Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

## Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

---

## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard SEVESO III

Legislation Not applicable

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

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1$  % (w/w).

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 821078  
Product name (S)-(-)- $\alpha$ -Terpineol for synthesis

---

## *National legislation*

Storage class 10 - 13

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

---

## SECTION 16. Other information

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

H315 Causes skin irritation.  
H319 Causes serious eye irritation.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

#### *Hazard pictograms*



#### *Signal word*

Warning

#### *Hazard statements*

H315 Causes skin irritation.  
H319 Causes serious eye irritation.

#### *Precautionary statements*

##### Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	821078
Product name	(S)-(-)- $\alpha$ -Terpineol for synthesis

---

P313 Get medical advice/ attention.

## Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

## Regional representation

This information is given on the authorised Safety Data Sheet for your country.

---

*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*