# safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU

**cis+trans-1,2-(+)-Limonene oxide ROTICHROM® GC**

article number: **3712**
Version: **1.0 en**

date of compilation: 2016-02-23

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

### 1.1 Product identifier

| | |
|---|---|
| Identification of the substance | **cis+trans-1,2-(+)-Limonene oxide** |
| Article number | 3712 |
| Registration number (REACH) | This information is not available. |
| EC number | 214-805-1 |
| CAS number | 1195-92-2 |

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

**Identified uses:** laboratory chemical

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

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

**Telephone:** +49 (0) 721 - 56 06 0
**Telefax:** +49 (0) 721 - 56 06 149
**e-mail:** sicherheit@carlroth.de
**Website:** www.carlroth.de

Competent person responsible for the safety data sheet : Department Health, Safety and Environment

**e-mail (competent person) : sicherheit@carlroth.de**

### 1.4 Emergency telephone number

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008 (CLP)**

**Classification acc. to GHS**

| Section | Hazard class | Hazard class and category | Hazard statement |
|---|---|---|---|
| 3.2 | skin corrosion/irritation | (Skin Irrit. 2) | H315 |
| 3.3 | serious eye damage/eye irritation | (Eye Irrit. 2) | H319 |

**Remarks**
For full text of Hazard- and EU Hazard-statements: see SECTION 16.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008 (CLP)**

**Signal word** **Warning**

**Pictograms**

**Hazard statements**

| | |
|---|---|
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |

**Precautionary statements**

**Precautionary statements - response**

| | |
|---|---|
| P302+P352 | IF ON SKIN: Wash with plenty of 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. |

**Labelling of packages where the contents do not exceed 125 ml**
Signal word: **Warning**
Symbol(s)

### 2.3 Other hazards

There is no additional information.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| | |
|---|---|
| Name of substance | 1-methyl-4-(1-methylvinyl)-7-oxabicyclo[4.1.0]heptane |
| EC number | 214-805-1 |
| CAS number | 1195-92-2 |
| Molecular formula | $C_{10}H_{16}O$ |
| Molar mass | 152,2 $^{g}/_{mol}$ |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General notes**

Take off contaminated clothing.

**Following inhalation**

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following skin contact**

Rinse skin with water/shower. In case of skin irritation, consult a physician.

**Following eye contact**

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

**Following ingestion**

Rinse mouth. Call a doctor if you feel unwell.

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

Irritation

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, dry extinguishing powder, carbon dioxide (CO2)

**Unsuitable extinguishing media**

water jet

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

Combustible. Vapours may form explosive mixtures with air.

**Hazardous combustion products**

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO2)

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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

**For non-emergency personnel**
Do not breathe vapour/spray. Avoid contact with skin and eyes. Avoidance of ignition sources.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

**Advices on how to contain a spill**
Covering of drains.

**Advices on how to clean up a spill**
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

**Other information relating to spills and releases**
Place in appropriate containers for disposal. Ventilate affected area.

**Reference to other sections**
Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provide adequate ventilation. When not in use, keep containers tightly closed.

**• Measures to prevent fire as well as aerosol and dust generation**

Keep away from sources of ignition - No smoking.

**Advice on general occupational hygiene**
Wash hands before breaks and after work.

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

Keep container tightly closed in a cool place.

**Incompatible substances or mixtures**
Observe hints for combined storage.

**Consideration of other advice**

**• Ventilation requirements**
Use local and general ventilation.

**• Specific designs for storage rooms or vessels**
Recommended storage temperature: 4 °C.

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**National limit values**

**Occupational exposure limit values (Workplace Exposure Limits)**

No data available.

### 8.2 Exposure controls

**Individual protection measures (personal protective equipment)**

**Eye/face protection**

Use safety goggle with side protection.

**Skin protection**

**• hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

**• type of material**

NBR (Nitrile rubber)

**• material thickness**

0,33mm.

**• breakthrough times of the glove material**

>480 minutes (permeation: level 6)

**• other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

**Respiratory protection**

Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).
Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

**Environmental exposure controls**

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance**

| | |
|---|---|
| Physical state | liquid (fluid) |
| Colour | colourless - light yellow |
| Odour | like lemon |
| Odour threshold | No data available |

**Other physical and chemical parameters**

| | |
|---|---|
| pH (value) | This information is not available. |
| Melting point/freezing point | not determined |
| Initial boiling point and boiling range | 113 - 117 °C |
| Flash point | 65 °C |
| Evaporation rate | no data available |
| Flammability (solid, gas) | not relevant (fluid) |
| Explosive limits | |
| • lower explosion limit (LEL) | this information is not available |
| • upper explosion limit (UEL) | this information is not available |
| Explosion limits of dust clouds | not relevant |
| Vapour pressure | This information is not available. |
| Density | 0,93 $^{g}/_{cm^3}$ |
| Vapour density | This information is not available. |
| Bulk density | Not applicable |
| Relative density | Information on this property is not available. |
| Solubility(ies) | |
| Water solubility | no data available |
| Partition coefficient | |
| n-octanol/water (log KOW) | This information is not available. |
| Auto-ignition temperature | Information on this property is not available. |
| Decomposition temperature | no data available |
| Viscosity | not determined |
| Explosive properties | none |
| Oxidising properties | none |

### 9.2 Other information

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

In case of warming:. Vapours can form explosive mixtures with air.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Violent reaction with: Strong oxidiser, Alkali (lye)

### 10.4 Conditions to avoid

Keep away from heat.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

Shall not be classified as acutely toxic.

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Respiratory or skin sensitisation**

May cause sensitisation especially in sensitive humans.

**Summary of evaluation of the CMR properties**

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

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

Shall not be classified as a specific target organ toxicant (single exposure).

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

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**Symptoms related to the physical, chemical and toxicological characteristics**

**• If swallowed**

gastrointestinal complaints, nausea

**• If in eyes**
Causes serious eye irritation

**• If inhaled**
essentially non-irritating

**• If on skin**
causes skin irritation

**Other information**
None

## SECTION 12: Ecological information

**12.1 Toxicity**
acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

**12.2 Process of degradability**
Theoretical Oxygen Demand: 2,837 $^{mg}/_{mg}$
Theoretical Carbon Dioxide: 2,891 $^{mg}/_{mg}$

**12.3 Bioaccumulative potential**
Data are not available.

**12.4 Mobility in soil**
Data are not available.

**12.5 Results of PBT and vPvB assessment**
Data are not available.

**12.6 Other adverse effects**
Slightly hazardous to water.

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**
This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Sewage disposal-relevant information**
Do not empty into drains.

**13.2 Relevant provisions relating to waste**
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**13.3 Remarks**
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

| | | |
|---|---|---|
| **14.1** | UN number | (not subject to transport regulations) |
| **14.2** | UN proper shipping name | not relevant |
| **14.3** | Transport hazard class(es) | not relevant |
| | Class | - |
| **14.4** | Packing group | not relevant |
| **14.5** | Environmental hazards | none (non-environmentally hazardous acc. to the dangerous goods regulations) |

**14.6 Special precautions for user**
There is no additional information.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**
The cargo is not intended to be carried in bulk.

**14.8 Information for each of the UN Model Regulations**

**• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**
Not subject to ADR, RID and ADN.

**• International Maritime Dangerous Goods Code (IMDG)**
Not subject to IMDG.

## SECTION 15: Regulatory information

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

**Relevant provisions of the European Union (EU)**

**• Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**
Not listed.

**• Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**
Not listed.

**• Regulation 850/2004/EC on persistent organic pollutants (POP)**
Not listed.

**• Restrictions according to REACH, Annex XVII**
not listed

**• List of substances subject to authorisation (REACH, Annex XIV)**
not listed

**• Limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (2004/42/EC, Deco-Paint Directive)**

| | |
|---|---|
| VOC content | 100 % |

**• Directive on industrial emissions (VOCs, 2010/75/EU)**

| | |
|---|---|
| VOC content | 100 % |

**Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II**

not listed

**Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)**

not listed

**Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)**

not listed

**National inventories**

Substance is listed in the following national inventories:

- EINECS/ELINCS/NLP (Europe)

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

**Abbreviations and acronyms**

| Abbr. | Descriptions of used abbreviations |
|---|---|
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR | Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| CMR | Carcinogenic, Mutagenic or toxic for Reproduction |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IMDG | International Maritime Dangerous Goods Code |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant) |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| VOC | Volatile Organic Compounds |
| vPvB | very Persistent and very Bioaccumulative |

### Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

| Code | Text |
|---|---|
| H315 | causes skin irritation |
| H319 | causes serious eye irritation |

### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.