

safety data sheet

Safe Work Australia - Code of Practice



(+)-Camphene ROTICHROM® GC

article number: **5288**
Version: **GHS 2.0 en**
Replaces version of: 2016-03-14
Version: (GHS 1.0)

date of compilation: 2016-03-14
Revision: 2016-11-03

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

1.1 Product identifier

| | |
|---------------------------------|------------------------------------|
| Identification of the substance | (+)-Camphene |
| Article number | 5288 |
| Registration number (REACH) | This information is not available. |
| EC number | 201-234-8 |
| CAS number | 79-92-5 |

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 |
| 2.7 | flammable solid | (Flam. Sol. 1) | H228 |
| 3.3 | serious eye damage/eye irritation | (Eye Irrit. 2A) | H319 |

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



(+)-Camphene ROTICHROM® GC

article number: 5288

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

Danger

Pictograms



Hazard statements

H228 Flammable solid.
H319 Causes serious eye irritation.

Precautionary statements

Precautionary statements - prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - response

P337+P313 If eye irritation persists: Get medical advice/attention.
P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.

Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)



H319 Causes serious eye irritation.
P337+P313 If eye irritation persists: Get medical advice/attention.

2.3 Other hazards

There is no additional information.

safety data sheet

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



(+)-Camphene ROTICHROM® GC

article number: 5288

SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|-------------------|---------------------------------|
| Name of substance | (+)-Camphene |
| EC number | 201-234-8 |
| CAS number | 79-92-5 |
| Molecular formula | C ₁₀ H ₁₆ |
| Molar mass | 136.2 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 all cases of doubt, or when symptoms persist, seek medical advice.

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

Gastrointestinal complaints, Irritation, Spasms

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
foam, dry extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

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



(+)-Camphene ROTICHROM® GC

article number: 5288

5.2 Special hazards arising from the substance or mixture

Combustible.

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. Vapours are heavier than air. Beware of reignition.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Do not breathe dust. Avoid contact with skin, eyes and clothes.

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

Take up mechanically. Control of dust.

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

Provision of sufficient ventilation.

• 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. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a cool place. Store in a dry place.

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(+)-Camphene ROTICHROM® GC

article number: 5288

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.

Relevant DNELs/DMELs/PNECs and other threshold levels

• human health values

| Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
|----------|-------------------------|------------------------------------|-------------------|----------------------------|
| DNEL | 110.2 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| DNEL | 110.2 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |
| DNEL | 0.21 mg/kg | human, dermal | worker (industry) | chronic - systemic effects |
| DNEL | 1.25 mg/kg | human, dermal | worker (industry) | chronic - local effects |

• environmental values

| Endpoint | Threshold level | Environmental compartment | Exposure time |
|----------|-----------------|------------------------------|------------------------------|
| PNEC | 0.001 mg/l | freshwater | short-term (single instance) |
| PNEC | 0 mg/l | marine water | short-term (single instance) |
| PNEC | 0.001 mg/l | water | intermittent release |
| PNEC | 10 mg/l | sewage treatment plant (STP) | short-term (single instance) |
| PNEC | 0.026 mg/kg | freshwater sediment | short-term (single instance) |
| PNEC | 0.003 mg/kg | marine sediment | short-term (single instance) |
| PNEC | 0.021 mg/kg | soil | short-term (single instance) |

8.2 Exposure controls

Individual protection measures (personal protective equipment)



safety data sheet

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



(+)-Camphene ROTICHROM® GC

article number: 5288

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

>0,11 mm

• 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: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

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 | solid (crystalline) |
| Colour | colourless |
| Odour | this information is not available |
| Odour threshold | No data available |

Other physical and chemical parameters

| | |
|---|---|
| pH (value) | 5.5 (0.004 g/l, 22 °C) |
| Melting point/freezing point | 43 - 46 °C |
| Initial boiling point and boiling range | 156 - 160 °C at 1,013 mbar |
| Flash point | 29.5 °C at 1,013 hPa (closed cup) |
| Evaporation rate | no data available |
| Flammability (solid, gas) | Flammable solid in accordance with GHS criteria |
| <u>Explosive limits</u> | |
| • lower explosion limit (LEL) | this information is not available |
| • upper explosion limit (UEL) | this information is not available |
| Explosion limits of dust clouds | these information are not available |
| Vapour pressure | 3.8 hPa at 20 °C |

safety data sheet

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



(+)-Camphene ROTICHROM® GC

article number: 5288

| | |
|-------------------------------------|--|
| Density | 0.87 g/cm ³ at 20 °C |
| Vapour density | This information is not available. |
| Relative density | Information on this property is not available. |
| <u>Solubility(ies)</u> | |
| Water solubility | 4.2 mg/l at 20 °C |
| <u>Partition coefficient</u> | |
| n-octanol/water (log KOW) | 4.22 (pH value: 7.2, 37 °C) (ECHA) |
| Soil organic carbon/water (log KOC) | 3.081 (ECHA) |
| Auto-ignition temperature | 260 °C - ECHA |
| Decomposition temperature | no data available |
| Viscosity | not relevant (solid matter) |
| • dynamic viscosity | 1.6 mPa s at 50 °C |
| Explosive properties | Shall not be classified as explosive |
| Oxidising properties | none |

9.2 Other information

SECTION 10: Stability and reactivity

10.1 Reactivity

risk of ignition. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

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, Strong alkali

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

safety data sheet

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



(+)-Camphene ROTICHROM® GC

article number: 5288

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Shall not be classified as acutely toxic.

| Exposure route | Endpoint | Value | Species | Source |
|----------------|----------|-------------|---------|--------|
| oral | LD50 | 5,000 mg/kg | rat | |

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

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

- **If in eyes**

data are not available

- **If inhaled**

data are not available

- **If on skin**

data are not available

Other information

Spasms

safety data sheet

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



(+)-Camphene ROTICHROM® GC

article number: 5288

SECTION 12: Ecological information

12.1 Toxicity

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

Aquatic toxicity (acute)

| Endpoint | Value | Species | Source | Exposure time |
|----------|-------------|-----------------------|--------|---------------|
| LC50 | 0.72 mg/l | striped brill | ECHA | 96 h |
| LC50 | 0.94 mg/l | fish | ECHA | 72 h |
| EC50 | 0.72 mg/l | aquatic invertebrates | ECHA | 48 h |
| ErC50 | >1,000 mg/l | algae | ECHA | 72 h |

Aquatic toxicity (chronic)

| Endpoint | Value | Species | Source | Exposure time |
|-------------------|------------|-----------------------|--------|---------------|
| LC50 | 1.4 mg/l | fish | ECHA | 24 h |
| EC50 | 0.96 mg/l | aquatic invertebrates | ECHA | 24 h |
| growth (EbCx) 10% | 490.3 mg/l | microorganisms | ECHA | 3 h |

12.2 Process of degradability

Not readily biodegradable.

Theoretical Oxygen Demand: 3.288 mg/mg

Theoretical Carbon Dioxide: 3.23 mg/mg

12.3 Bioaccumulative potential

The substance fulfils the very bioaccumulative criterion.

n-octanol/water (log KOW)

4.22 (pH value: 7.2, 37 °C)

12.4 Mobility in soil

Henry's law constant

0.161 Pa m³/mol at 25 °C

The Organic Carbon normalised adsorption coefficient

3.081

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

(+)-Camphene ROTICHROM® GC

article number: **5288**

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.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

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 | 1325 |
| 14.2 | UN proper shipping name | FLAMMABLE SOLID, ORGANIC, N.O.S. |
| | Hazardous ingredients | (+)-Camphene |
| 14.3 | Transport hazard class(es) | |
| | Class | 4.1 (flammable solids) |
| 14.4 | Packing group | II (substance presenting medium danger) |
| 14.5 | Environmental hazards | hazardous to the aquatic environment |
| 14.6 | Special precautions for user | |
| | Provisions for dangerous goods (ADR) should be complied within the premises. | |
| 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) | |
| | UN number | 1325 |
| | Proper shipping name | FLAMMABLE SOLID, ORGANIC, N.O.S. |
| | Particulars in the transport document | UN1325, FLAMMABLE SOLID, ORGANIC, N.O.S., ((+)-Camphene), 4.1, II, (E), environmentally hazardous |
| | Class | 4.1 |
| | Classification code | F1 |
| | Packing group | II |
| | Danger label(s) | 4.1 + "fish and tree" |

safety data sheet

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



(+)-Camphene ROTICHROM® GC

article number: 5288



| | |
|---|--|
| Environmental hazards | yes (hazardous to the aquatic environment) |
| Special provisions (SP) | 274 |
| Excepted quantities (EQ) | E2 |
| Limited quantities (LQ) | 1 kg |
| Transport category (TC) | 2 |
| Tunnel restriction code (TRC) | E |
| Hazard identification No | 40 |
| Emergency Action Code | 1Z |
| • International Maritime Dangerous Goods Code (IMDG) | |
| UN number | 1325 |
| Proper shipping name | FLAMMABLE SOLID, ORGANIC, N.O.S. |
| Particulars in the shipper's declaration | UN1325, FLAMMABLE SOLID, ORGANIC, N.O.S., ((+)-Camphene), 4.1, II, 29.5°C c.c., MARINE POLLUTANT |
| Class | 4.1 |
| Marine pollutant | yes (hazardous to the aquatic environment) |
| Packing group | II |
| Danger label(s) | 4.1 + "fish and tree" |
| | |
| Special provisions (SP) | 274, 915 |
| Excepted quantities (EQ) | E2 |
| Limited quantities (LQ) | 1 kg |
| EmS | F-A, S-G |
| Stowage category | B |

safety data sheet

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



(+)-Camphene ROTICHROM® GC

article number: 5288

National inventories

Substance is listed in the following national inventories:

- EINECS/ELINCS/NLP (Europe)
- REACH (Europe)

15.2 Chemical Safety Assessment

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

SECTION 16: Other information

16.1 Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|--|---|-----------------|
| 8.1 | | Occupational exposure limit values (Workplace Exposure Limits): No data available. | yes |
| 8.2 | Respiratory protection: Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White). Observe the wear time limits according Gef-StoffV in combination with the rules for using respiratory protection apparatus (BGR 190). | Respiratory protection: Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White). | no |
| 9.1 | Explosive properties: none | Explosive properties: Shall not be classified as explosive | no |
| 9.2 | Other information: There is no additional information. | | no |
| 12.6 | Other adverse effects: Hazardous to water. | Other adverse effects: Data are not available. | no |

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 |
| DMEL | Derived Minimal Effect Level |
| DNEL | Derived No-Effect Level |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| 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") |

safety data sheet

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



(+)-Camphene ROTICHROM® GC

article number: 5288

| Abbr. | Descriptions of used abbreviations |
|-------|---|
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| 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 |
|------|-------------------------------|
| H228 | flammable solid |
| 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.