1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

Product name: (-)-Carvone
Catalogue number: 5012 S
CAS NUMBER: [6485-40-1] EC Number: 229-352-5

Relevant identified uses of the substance / mixture and uses advised against:
Reagent for research use only

Supplier:
EXTRASYNTHESE
Z.I Lyon Nord
Impasse Jacquard - C.S 30062
69727 GENAY CEDEX - FRANCE
Phone. (33)(0)478-98-20-34
Fax. (33)(0)478-98-19-45
info@extrasynthese.com

Emergency call number ORFILA (France): Tel.: (33)(0)145-42-59-59

2. HAZARDS IDENTIFICATION

Classification of the substance / mixture
According to Regulation (EC) No 1272/2008
Acute oral toxicity (Category 4) ; H302

Label elements

Warning

Hazard statements
H302 Harmful if swallowed

Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Supplemental hazard information
None

Other hazards
None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Product name: (-)-Carvone
Empirical formula: C_{10}H_{14}O
CAS NUMBER: [6485-40-1]
Synonyms: 4-Mentha-6,8-dien-2-one
EC Number: 229-352-5

Other hazardous ingredients
No data available.

4. FIRST AID MEASURES

Inhalation
In case of inhalation, move the victim to fresh air. If breathing is difficult, put the victim on oxygen. If breathing stops, carry out artificial respiration.

In case of skin contact
Wash thoroughly with water and soap.

In case of eye contact
Rinse well with plenty of water for at least 15 minutes.

Ingestion
Do not make an unconscious person vomit or swallow anything. Rinse the mouth thoroughly with water.
5. **FIRE-FIGHTING MEASURES**

**Extinguishing media**
Carbon dioxide, dry powder.

**Special hazards arising from the substance**
Harmful/toxic vapours, carbon oxides may be released during the fire.

**Advise for fire-fighters**
Wear an autonomous breathing apparatus and suitable protection clothing against chemical agents.

6. **ACCIDENTAL RELEASE MEASURES**

**Personal precautions**
Use personal protective equipment. Evacuate the personnel from the contaminated zone. Ensure adequate ventilation.

**Environmental precautions**
Keeping away from drains, surface and ground waters.

**Methods and materials for containment and cleaning up**
Clean up without creating dust and place in adapted and sealed containers for elimination. Wash the contaminated area with water and soap. Confining washing water and dispose of it complying with the local regulations. After cleaning, quickly eliminate traces of water with a product absorbing liquids (for example: sand, sawdust, universal binder, Kieselguhr).

7. **HANDLING AND STORAGE**

**Precautions for safe handling**
Avoid formation of dust. Avoid contact with skin and eyes. During handling, wear suitable personal protective equipment (see section 8). Follow the normal measures for preventive fire protection.

**Specific handling**
No data available.

**Specific end use(s)**
No data available

**Conditions for safe storage, including any incompatibilities**
Store in a cool well-ventilated place. Keep container tightly closed in a dry place away from light. Store at <8°C.

8. **EXPOSURE CONTROL/PERSOAL PROTECTION**

**Respiratory protection**
Wear imperatively an appropriated mask/respirator, tested and approved by standards such as NIOSH (US) or CEN (EU).

**Hand protection**
Handle with protective gloves. The selected gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Eye protection**
Wear safety glasses.

**Skin protection**
Wear suitable protective clothing according to the quantity and the level of activity of the substance at the workplace.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>No data available.</td>
</tr>
<tr>
<td>Solubility in Ethyl alcohol</td>
<td>Soluble</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>No data available.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available.</td>
</tr>
<tr>
<td>Viscosity</td>
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</tr>
<tr>
<td>Initial boiling point</td>
<td>227°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>88°C</td>
</tr>
</tbody>
</table>

**Other information**
No data available
10. STABILITY AND REACTIVITY

Reactivity
No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
No hazardous reactions during storage and handling complying with the instructions.

Conditions to avoid
No data available.

Incompatible materials
No data available.

Hazardous decomposition products
No hazardous decomposition products if the instructions for handling and storage are respected. During high overheating of the substance or during a fire, hazardous decomposition products may be produced.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity
Rat, Dose : 1640 mg/kg
Result : LD50, (RTECS),

Acute dermal toxicity
No data available.

Acute inhalation toxicity
No data available.

Skin Corrosion
No data available.

Skin Irritation
No data available.

Serious Eye Damage
No data available.

Eye Irritation
No data available.

Respiratory Sensitisation
No data available.

Skin Sensitisation
No data available.

Germ Cell Mutagenicity
No data available.

Carcinogenicity
No data available.

Reproductive Toxicity
No data available.

Specific Target Organ Toxicity - Single Exposure
No data available.

Specific Target Organ Toxicity - Repeated Exposure
No data available.

Aspiration Hazard
No data available.
### 12. ECOLOGICAL INFORMATION

**Toxicity**
No data available.

**Persistence and degradability**
No data available.

**Bioaccumulative potential**
No data available.

**Mobility in soil**
No data available.

**Results of PBT and vPvB assessment**
No data available.

**Other adverse effects**
No data available.

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**
Non-recyclable surplus and solutions must be sent to a licensed professional waste disposal service, while respecting the local statutory instructions. Contaminated packaging is to be eliminated in the same way as the product that is contained.

### 14. TRANSPORT INFORMATION

**Not dangerous goods**

**Environmental hazards**
No

### 15. REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance**
- Directive 96/82/CE (SEVESO category/named substances) : not applicable.
- Regulation CE 2037/2000 (substances that deplete the ozone layer) : not applicable.
- Regulation 850/2004 (persistent organic pollutants) : not applicable.
- Regulation REACH-Titre VII (authorisations) et Titre VIII (restrictions) : not applicable.

**Chemical safety assessment**
Not applicable.

### 16. OTHER INFORMATION

**Use**
The information contained in this safety data sheet are based on our experience and our current knowledge. The data may in no case be considered as product specifications. It is provided for information purposes only with no obligation on our part. In this respect, we shall not be held liable for the use which is made of our products and for the information given above.

**Abbreviations and acronyms**
- ADR: Agreement on Dangerous Goods by Road
- RID: Regulations concerning the International Transport of Dangerous Goods by Rail
- IATA: International Air Transport Association
- CAS: Chemical Abstract Service
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: Very Persistent and Very Bioaccumulative

(-)-Carvone