SAFETY DATA SHEET
(±)-3-Carene

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 25768
Product Name: (±)-3-Carene
Synonyms: 3,7,7-trimethyl-bicyclo[4.1.0]hept-3-ene; (±)-δ-carene;

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:
Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335

1.4 Emergency telephone number:
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:
Flammable Liquids, Category 3
Skin Corrosion/Irritation, Category 2
Skin Sensitization, Category 1
Aspiration Toxicity, Category 1
Aquatic Toxicity (Chronic), Category 3

2.2 Label Elements:

GHS Signal Word: Danger

GHS Hazard Phrases:
H226: Flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H412: Harmful to aquatic life with long lasting effects.

GHS Precaution Phrases:
P210: Keep away from (heat/sparks/open flames/hot surfaces). - No smoking.
P261: Avoid breathing (dust/fume/gas/mist/vapors/spray).
P264: Wash (hands) thoroughly after handling.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear (protective gloves/protective clothing/eye protection/face protection).

GHS Response Phrases:
P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
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P331: Do NOT induce vomiting.
P332+313: If skin irritation occurs, get medical advice/attention.
P333+313: If skin irritation or rash occurs, seek medical advice/attention.
P362+364: Take off contaminated clothing and wash it before reuse.

GHS Storage and Disposal Phrases:
Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health

Effects and Symptoms: Causes skin irritation. Material may be irritating to the mucous membranes and upper respiratory tract. May be fatal if swallowed and enters airways. May be harmful by inhalation, ingestion, or skin absorption. May cause an allergic skin reaction. May cause eye or respiratory system irritation. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/ REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>13466-78-9 FH8400000</td>
<td>Bicyclo[4.1.0]hept-3-ene, 3,7,7-Trimethyl-01-2119520252-55</td>
<td>100.0 %</td>
<td>236-719-3 NA</td>
<td>Asp. Toxic. 1: H304 Aquatic (C) 3: H412 Flam. Liq. 3: H226 Skin Corr. 2: H315 Skin Sens. 1: H317</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Unsuitable Extinguishing Media: Use water spray to cool fire-exposed containers.

5.2 Flammable Properties and Hazards: No data available.

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Section 6. Accidental Release Measures

6.1 Protective Precautions, Methods and Material For
6.2 Environmental Precautions:
6.3 Methods and Material For Containment and Cleaning:

Contain spill and collect, as appropriate.
Transfer to a chemical waste container for disposal in accordance with local regulations.

Environmental Precautions:

Avoid breathing vapors and provide adequate ventilation.
As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Take steps to avoid release into the environment, if safe to do so.

Methods and Material For Containment and Cleaning:

Avoid breathing dust/fume/gas/mist/vapours/spray.
Avoid prolonged or repeated exposure.
Keep container tightly closed.
Store in accordance with information listed on the product insert.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:
7.2 Precautions To Be Taken in Storing:

Avoid prolonged or repeated exposure.
Keep container tightly closed.
Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Chemical Name</th>
<th>Jurisdiction</th>
<th>Recommended Exposure Limits</th>
<th>Notations</th>
</tr>
</thead>
<tbody>
<tr>
<td>13466-78-9</td>
<td>Bicyclo[4.1.0]hept-3-ene, 3,7,7-Trimethyl-</td>
<td>ACGIH TLV</td>
<td>TLV: 20 ppm</td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:

Eye Protection: Safety glasses
Protective Gloves: Compatible chemical-resistant gloves
Other Protective Clothing: Lab coat
Respiratory Equipment: NIOSH approved respirator, as conditions warrant.

Work/Hygienic/Maintenance Practices: Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
Wash thoroughly after handling.
No data available.
Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

- **Physical States:** [ ] Gas [ X ] Liquid [ ] Solid
- **Appearance and Odor:** An oil
- **pH:** No data.
- **Melting Point:** No data.
- **Boiling Point:** No data.
- **Flash Pt:** No data.
- **Evaporation Rate:** No data.
- **Flammability (solid, gas):** No data available.
- **Explosive Limits:**
  - LEL: No data.
  - UEL: No data.
- **Vapor Pressure (vs. Air or mm Hg):** No data.
- **Vapor Density (vs. Air = 1):** No data.
- **Specific Gravity (Water = 1):** No data.
- **Solubility in Water:** No data.
- **Solubility Notes:** Soluble in: chloroform; MeOH;
- **Octanol/Water Partition Coefficient:** No data.
- **Autoignition Pt:** No data.
- **Decomposition Temperature:** No data.
- **Viscosity:** No data.
- **Percent Volatile:** No data.

9.2 Other Information

- **Molecular Formula & Weight:** C10H16 136.2

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Stability:

- **Unstable [ ] Stable [ X ]**

10.3 Stability Note(s):

- Stable if stored in accordance with information listed on the product insert.

10.4 Conditions To Avoid: No data available.

10.5 Incompatibility - Materials strong oxidizing agents

10.6 Hazardous To Avoid:

- carbon dioxide

10.6 Decomposition or Byproducts:

- carbon monoxide
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Section 11. Toxicological Information

11.1 Information on Toxicological Effects:
- The toxicological effects of this product have not been thoroughly studied.
- (±)-3-Carene - Toxicity Data: Oral LD50 (rat): 4800 mg/kg;
- Investigated as a natural product and primary irritant.
- See actual entry in RTECS for complete information.

Carcinogenicity:
- NTP? No
- IARC Monographs? No
- OSHA Regulated? No

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
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<tbody>
<tr>
<td>13466-78-9</td>
<td>Bicyclo[4.1.0]hept-3-ene, 3,7,7-Trimethyl-</td>
<td>n.a.</td>
<td>n.a.</td>
<td>A4</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity:
- Avoid release into the environment.
- Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability:
- No data available.

12.3 Bioaccumulative Potential:
- No data available.

12.4 Mobility in Soil:
- No data available.

12.5 Results of PBT and vPvB assessment:
- No data available.

12.6 Other adverse effects:
- No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method:
- Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
- DOT Proper Shipping Name: Terpene hydrocarbon, n.o.s. ((±)-3-Carene)
- DOT Hazard Class: 3 - FLAMMABLE LIQUID
- UN/NA Number: UN2319
- Packing Group: III

14.1 LAND TRANSPORT (European ADR/RID):
- ADR/RID Shipping Name: Terpene hydrocarbon, n.o.s. ((±)-3-Carene)
- UN Number: 2319
- Packing Group: III
- Hazard Class: 3 - FLAMMABLE LIQUID

14.3 AIR TRANSPORT (ICAO/IATA):
- ICAO/IATA Shipping Name: Terpene hydrocarbon, n.o.s. ((±)-3-Carene)
- UN Number: 2319
- Packing Group: III
- Hazard Class: 3 - FLAMMABLE LIQUID
- IATA Classification: 3

Additional Transport Information:
- Transport in accordance with local, state, and federal regulations.
- When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.
Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

### Section 15. Regulatory Information

#### EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13466-78-9</td>
<td>Bicyclo[4.1.0]hept-3-ene, 3,7,7-Trimethyl-</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

#### Other US EPA or State Lists

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<th>CAS #</th>
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<tr>
<td>13466-78-9</td>
<td>Bicyclo[4.1.0]hept-3-ene, 3,7,7-Trimethyl-</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>

**Regulatory Information Statement:**

This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

### Section 16. Other Information

**Revision Date:** 09/29/2018

**Additional Information About This Product:** No data available.

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