## SECTION 1: Identification

### 1.1. Identification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>1-HEPTENE</td>
</tr>
<tr>
<td>Product code</td>
<td>ENEH1110</td>
</tr>
<tr>
<td>Product form</td>
<td>Substance</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Formula</td>
<td>C7H14</td>
</tr>
<tr>
<td>Synonyms</td>
<td>n-HEPTENE, n-HEPT-1-ENE</td>
</tr>
<tr>
<td>Chemical family</td>
<td>HYDROCARBON</td>
</tr>
</tbody>
</table>

### 1.2. Recommended use and restrictions on use

<table>
<thead>
<tr>
<th>Description</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended use</td>
<td>Chemical intermediate</td>
</tr>
</tbody>
</table>

### 1.3. Supplier

**GELEST, INC.**
11 East Steel Road
Morrisville, PA 19067
USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

### 1.4. Emergency telephone number

**Emergency number**
CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

- Flammable liquids Category 2: H225 - Highly flammable liquid and vapor

Full text of H statements: see section 16

### 2.2. GHS Label elements, including precautionary statements

- **Signal word (GHS US)**: Danger
- **Hazard pictograms (GHS US)**: 

- **Hazard statements (GHS US)**: H225 - Highly flammable liquid and vapor
- **Precautionary statements (GHS US)**:
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
  - P210 - Keep away from heat, open flames, sparks. - No smoking.
  - P233 - Keep container tightly closed.
  - P240 - Ground/Bond container and receiving equipment
  - P241 - Use explosion-proof electrical equipment
  - P242 - Use only non-sparking tools.
  - P243 - Take precautionary measures against static discharge.
  - P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing, rinse skin with water/shower
  - P370+P378 - In case of fire: Use water spray or fog, foam, carbon dioxide, dry chemical to extinguish.
  - P403+P235 - Keep in a cool place
  - P501 - Dispose of contents/container to licensed waste disposal facility.

### 2.3. Hazards not otherwise classified (HNOC)

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

<table>
<thead>
<tr>
<th>Description</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance type</td>
<td>Multi-constituent</td>
</tr>
</tbody>
</table>
1-HEPTENE
Safety Data Sheet

Name : 1-HEPTENE
CAS-No. : 592-76-7

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Heptene</td>
<td>(CAS-No.) 592-76-7</td>
<td>95 - 100</td>
<td>Flam. Lq. 2, H225</td>
</tr>
<tr>
<td>Heptene isomers</td>
<td>(CAS-No.) not found</td>
<td>0 - 3</td>
<td>Flam. Lq. 2, H225 Asp. Tox. 1, H304</td>
</tr>
<tr>
<td>1-Octene</td>
<td>(CAS-No.) 111-66-0</td>
<td>0 - 2</td>
<td>Flam. Lq. 2, H225 Aquatic Acute 1, H400</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures
Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause irritation to the respiratory tract. May be harmful if inhaled.

Symptoms/effects after skin contact : May cause mild skin irritation.

Symptoms/effects after eye contact : May cause eye irritation.

Symptoms/effects after ingestion : May be harmful if swallowed.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media : None known.

5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

Explosion hazard : May form flammable/explosive vapor-air mixture.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Eliminate every possible source of ignition. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Print date: 04/10/2019
EN (English US) SDS ID: ENEH1110
Methods for cleaning up: Clean up any spills as soon as possible, using an absorbent material to collect it. Use only non-sparking tools.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed: Handle empty containers with care because residual vapors are flammable. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent accumulation of vapors. Take precautionary measures against static discharge. Use only non-sparking tools.

Hygiene measures: Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.

Storage conditions: Keep container tightly closed. Keep in a cool place.

Incompatible materials: Oxidizing agent.

Storage area: Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1-Octene (111-66-0)
AIHA WEEL TWA (ppm) 75 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls: Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:
Neoprene or nitrile rubber gloves

Eye protection:
Chemical goggles. Contact lenses should not be worn

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. 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>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>98.19 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor</td>
<td>Strong.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.4</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>~ 1</td>
</tr>
<tr>
<td>Melting point</td>
<td>-119 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
</tbody>
</table>
1-HEPTENE
Safety Data Sheet

**SECTION 1: Identification**
- **Product identifier:** 1-Octene (111-66-0)
- **Synonyms:**
  - IUPAC name: octene
  - Other names: 1-heptene, 2-methylhexene

**SECTION 2: Hazard(s)**
- **Boiling point:** 94 °C
- **Flash point:** -9 °C
- **Auto-ignition temperature:** 262 °C
- **Decomposition temperature:** No data available
- **Flammability (solid, gas):** Highly flammable liquid and vapor
- **Vapor pressure:** < 60 mm Hg @ 20°C
- **Relative vapor density at 20 °C:** 1.0
- **% Volatiles:** 100 %
- **Solubility:** Insoluble in water.
- **Log Pow:** No data available
- **Log Kow:** No data available
- **Explosive properties:** No data available
- **Oxidizing properties:** No data available
- **Explosion limits:** 1 vol % (lower)
- **Explosive properties:** No data available
- **Oxidizing properties:** No data available

**SECTION 10: Stability and reactivity**

10.1. **Reactivity**
- No additional information available

10.2. **Chemical stability**
- Stable.

10.3. **Possibility of hazardous reactions**
- No additional information available

10.4. **Conditions to avoid**
- Heat.
- Open flame.
- Sparks.

10.5. **Incompatible materials**
- Oxidizing agent.

10.6. **Hazardous decomposition products**
- Organic acid vapors.

**SECTION 11: Toxicological information**

11.1. **Information on toxicological effects**
- **Acute toxicity:** Not classified

<table>
<thead>
<tr>
<th>Component</th>
<th>Route of Exposure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Octene (111-66-0)</td>
<td>LD50 oral rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LC50 inhalation rat (ppm)</td>
<td>8050 ppm/4h</td>
</tr>
<tr>
<td></td>
<td>ATE US (gases)</td>
<td>8050 ppmV/4h</td>
</tr>
<tr>
<td></td>
<td>ATE US (vapors)</td>
<td>40.2 mg/l/4h</td>
</tr>
</tbody>
</table>

- **Skin corrosion/irritation:** Not classified
- **Serious eye damage/irritation:** Not classified
- **Respiratory or skin sensitization:** Not classified
- **Germ cell mutagenicity:** Not classified
  - Ames test (histidine reversion) is negative, i.e not a mutagen
- **Carcinogenicity:** Not classified
  - None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.
- **Reproductive toxicity:** Not classified
- **Specific target organ toxicity – single exposure:** Not classified
- **Specific target organ toxicity – repeated exposure:** Not classified
1-HEPTENE
Safety Data Sheet

Aspiration hazard: Not classified
Symptoms/effects after inhalation: May cause irritation to the respiratory tract. May be harmful if inhaled.
Symptoms/effects after skin contact: May cause mild skin irritation.
Symptoms/effects after eye contact: May cause eye irritation.
Symptoms/effects after ingestion: May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

1-Octene (111-66-0)

| LC50 fish 1 | 1 mg/l |

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential

1-Octene (111-66-0)

| Log Pow | 4.57 (at 25 °C) |

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Other adverse effects: This substance may be hazardous to the environment.
Effect on the ozone layer: No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods
Sewage disposal recommendations: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations: Incinerate. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Additional information: Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number
UN-No.(DOT) : 2278
DOT NA no. : UN2278

14.2. UN proper shipping name
Transport document description : UN2278 n-Heptene, 3, II
Proper Shipping Name (DOT) : n-Heptene
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT) : II - Medium Danger
Hazard labels (DOT) : 3 - Flammable liquid

14.3. Additional information
Emergency Response Guide (ERG) Number : 128
Other information: No supplementary information available.

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
### Transport by sea

**DOT Vessel Stowage Location**

B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

### Air transport

**DOT Quantity Limitations Passenger aircraft/rail**

5 L

(49 CFR 173.27)

**DOT Quantity Limitations Cargo aircraft only**

60 L

(49 CFR 175.75)

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

**1-Heptene (592-76-7)**

- Listed on the United States TSCA (Toxic Substances Control Act) inventory

**1-Octene (111-66-0)**

- Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

**CANADA**

**1-Heptene (592-76-7)**

- Listed on the Canadian NDSL (Non-Domestic Substances List)

**1-Octene (111-66-0)**

- Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulations**

**1-Heptene (592-76-7)**

- Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**1-Octene (111-66-0)**

- Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### National regulations

**1-Heptene (592-76-7)**

- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)

**1-Octene (111-66-0)**

- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)
- Listed on CICR (Turkish Inventory and Control of Chemicals)

#### 15.3. US State regulations

**California Proposition 65**

- This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

**1-Heptene (592-76-7)**

- U.S. - Pennsylvania - RTK (Right to Know) List

**1-Octene (111-66-0)**

- U.S. - Massachusetts - Right To Know List
- U.S. - Pennsylvania - RTK (Right to Know) List
### SECTION 16: Other information

**Full text of H-phrases:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapor</td>
</tr>
<tr>
<td>H304</td>
<td>May be fatal if swallowed and enters airways</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
</tbody>
</table>

**Abbreviations and acronyms:**

- **Abbreviations:** ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

**Hazard Rating**

**Health:** 2 Moderate Hazard - Temporary or minor injury may occur

**Flammability:** 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)

**Physical:** 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

Date of issue: 06/02/2017  
Version: 1.0

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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