1-HEXENE

CAUTIONARY RESPONSE INFORMATION

<table>
<thead>
<tr>
<th>Water</th>
<th>Vapor</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Colorless</td>
<td>Mild pleasant odor</td>
</tr>
</tbody>
</table>

- Floats on water.
- Flammable, irritating vapor is produced.

**Fire**
- FLAMMABLE
- Flashback along vapor trail may occur.
- Vapor may explode if ignited in an enclosed area.
- Extinguish with dry chemical, foam, or carbon dioxide.
- Water may be ineffective on fire.
- Cool exposed containers with water.
- Protect water intakes.

**Exposure**
- CALL FOR MEDICAL AID.
- VAPOR
- If inhaled: will cause dizziness, difficult breathing, or loss of consciousness.
- If breathing is difficult, give artificial respiration.
- If breathing has stopped, give artificial respiration.
- If breathing is difficult, give oxygen.
- IRITATING TO SKIN AND EYES: If splashed on skin or eyes, flush eyes with water to remove any splashes; launder contaminated clothing before reuse.
- If exposed to liquid or vapor: Change clothing. Avoid contact with liquid and vapor.
- If breathing is difficult, give oxygen.
- If poisoning is suspected: Notify local health and pollution control agencies.
- Not listed.

**Water Pollution**
- Effect of low concentrations on aquatic life is unknown.
- Foulng to shoreline.
- Effects are not listed.
- Effect of low concentrations on aquatic life is unknown.
- Not pertinent.
- Not pertinent.

- Effect of low concentrations on aquatic life is unknown.
- Not pertinent.

**NOTES**
- Currently not available.

**4. FIRE HAZARDS**

- **4.1 Flash Point**: -15°F (C.C.)
- **4.2 Flammable Limits in Air**: LEL (est.) = 1.2%; UEL not listed
- **4.3 Extinguishing Agents**: Foam, dry chemical, or carbon dioxide
- **4.4 Extinguishing Agents Not to Be Used**: Water may be ineffective
- **4.5 Special Hazards of Combustion Products**: No pertinent
- **4.6 Behavior in Fire**: Not pertinent
- **4.7 Auto-Ignition Temperature**: Not pertinent
- **4.8 Electrical Hazards**: Not pertinent
- **4.9 Burning Rate**: Not pertinent
- **4.10 Adiabatic Flame Temperature**: Not pertinent
- **4.11 Stoichiometric Air to Fuel Ratio**: 42.8 (calc.)
- **4.12 Flame Temperature**: Currently not available
- **4.13 Combustion Molar Ratio (Reactant to Product)**: 12.0 (calc.)
- **4.14 Minimum Oxygen Concentration for Combustion (MOOC)**: Not listed

**5. CHEMICAL REACTIVITY**

- **5.1 Reactivity with Water**: No reaction
- **5.2 Reactivity with Common Materials**: No reaction
- **5.3 Stability During Transport**: Stable
- **5.4 Neutralizing Agents for Acids and Caustics**: Not pertinent
- **5.5 Polymerization**: Not pertinent
- **5.6 Inhibitor of Polymerization**: Not pertinent

**6. WATER POLLUTION**

- **6.1 Aquatic Toxicity**: Not pertinent
- **6.2 Waterfowl Toxicity**: Currently not available
- **6.3 Biological Oxygen Demand (BOD)**: 1.5% 7 days
- **6.4 Food Chain Concentration Potential**: None
- **6.5 GESAMP Hazard Profile**: Bioaccumulation: 0 Damage to living resources: 2 Human Oral hazard: 0 Human Contact hazard: 0 Reduction of amenities: 0

**7. SHIPPING INFORMATION**

- **7.1 Grades of Purity**: Technical, 95-98%; Pure, 99+%
- **7.2 Storage Temperature**: Ambient
- **7.3 Inert Atmosphere**: No requirement
- **7.4 Venting**: Open (flame arrester) or pressure-vacuum
- **7.5 IMO Pollution Category**: (C)
- **7.6 Ship Type**: 3
- **7.7 Barge Hull Type**: Currently not available

**8. HAZARD CLASSIFICATIONS**

- **8.1 49 CFR Category**: Flammable liquid
- **8.2 49 CFR Class**: 3
- **8.3 49 CFR Package Group**: II
- **8.4 Marine Pollution**: Not pertinent
- **8.5 NPPA Hazard Classification**:
  - Category Classification
  - Health Hazard (Blue): Not pertinent
  - Flammability (Red): Not pertinent
  - Instability (Yellow): Not pertinent
- **8.6 EPA Reportable Quantity**: Not listed
- **8.7 EPA Pollution Category**: Not listed
- **8.8 RQRA Waste Number**: Not listed
- **8.9 EPA FWPCA List**: Not listed

**9. PHYSICAL & CHEMICAL PROPERTIES**

- **9.1 Physical State at 15°C and 1 atm**: Liquid
- **9.2 Molecular Weight**: 112.16
- **9.3 Boiling Point**: 146.3°F = 63.5°C = 336.7 K
- **9.4 Freezing Point**: -219.6°F = -139.8°C = 133.4 K
- **9.5 Critical Temperature**: 447.4°F = 230.8°C = 564 K
- **9.6 Critical Pressure**: 460 psia = 31.3 atm = 317 MN/m²
- **9.7 Specific Gravity**: 0.673 at 20°C (liquid)
- **9.8 Liquid Surface Tension**: 18.8 dynes/cm = 0.01 N/m
- **9.9 Liquid Water Interface Tension**: 31.6 dynes/cm = 0.0316 N/m at 22°C
- **9.10 Vapor (Gas) Specific Gravity**: 2.9
- **9.11 Ratio of Specific Heats of Vapor (Gas)**: 1.068
- **9.12 Latent Heat of Vaporization**: 140 Btu/lb = 80 cal/g = 3.3 X 10³ J/kg
- **9.13 Heat of Combustion**: 19.134 Btu/lb = -10,630 cal/g = -445.06 X 10³ J/kg
- **9.14 Heat of Decomposition**: Not pertinent
- **9.15 Heat of Solution**: Not pertinent
- **9.16 Heat of Polymerization**: Not pertinent
- **9.17 Heat of Fusion**: Not pertinent
- **9.18 Limiting Values**: Currently not available
- **9.19 Reid Vapor Pressure**: Currently not available

**3. HEALTH HAZARDS**

- **3.1 Personal Protective Equipment**: Approved organic vapor respirator or air-line mask; protective goggles or face shield
- **3.2 Symptoms Following Exposure**: Inhalation may cause giddiness or incoordination similar to that from gasoline vapor. Protracted exposure to high concentrations may induce loss of consciousness or death.
- **3.3 Treatment of Exposure**: SKIN OR EYES: wash exposed skin areas with soap and water; thoroughly flush eyes with water to remove any splashes; launder contaminated clothing before reuse.
- **3.4 TLV/TWA**: Notice of intended change: 30 ppm
- **3.5 TLV-STEL**: Not listed
- **3.6 TLV-Ceiling**: Not listed
- **3.7 Toxicity by Ingestion**: Currently not available
- **3.8 Toxicity by Inhalation**: Currently not available
- **3.9 Chronic Toxicity**: Currently not available
- **3.10 Vapor (Gas) Irritant Characteristics**: Slight smarting of the eyes or respiratory system if present in high concentrations. Effect is temporary
- **3.11 Liquid or Solid Characteristics**: Currently not available
- **3.12 Odor Threshold**: Currently not available
- **3.13 IDLH Values**: Not listed
- **3.14 OSHA PEL-TWA**: Not listed
- **3.15 OSHA PEL-STEL**: Not listed
- **3.16 OSHA PEL-Ceiling**: Not listed
- **3.17 EPA AEG**: Not listed

**2. CHEMICAL DESIGNATIONS**

- **2.1 CG Compatibility Group**: 30; Olefin
- **2.2 Formula**: CH:CH=CH:CH:CH:
- **2.3 IMON Designation**: Not listed
- **2.4 DOT ID No.:** 2370
- **2.5 CAS Registry No.:** 51119
- **2.6 NAIFA Guide No.:** 128
- **2.7 Standard Industrial Trade Classification**: 128

**1. CORRECTIVE RESPONSE ACTIONS**

- **1.1 Personal Protective Equipment**: Approved organic vapor respirator or air-line mask; protective goggles or face shield
- **1.2 Symptoms Following Exposure**: Inhalation may cause giddiness or incoordination similar to that from gasoline vapor. Protracted exposure to high concentrations may induce loss of consciousness or death.
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- **6.4 Food Chain Concentration Potential**: None
- **6.5 GESAMP Hazard Profile**: Bioaccumulation: 0 Damage to living resources: 2 Human Oral hazard: 0 Human Contact hazard: 0 Reduction of amenities: 0

**NOTES**

**JUNE 1999**
### 9.20 Saturated Liquid Density

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per cubic foot</th>
<th>Temperature (degrees F)</th>
<th>British thermal unit per pound-F</th>
<th>Temperature (degrees F)</th>
<th>British thermal unit inch per hour-square foot-F</th>
<th>Temperature (degrees F)</th>
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### 9.21 Liquid Heat Capacity

### 9.22 Liquid Thermal Conductivity

### 9.23 Liquid Viscosity

### 9.24 Solubility in Water

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<th>Temperature (degrees F)</th>
<th>Pounds per 100 pounds of water</th>
<th>Temperature (degrees F)</th>
<th>Pounds per square inch</th>
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### 9.25 Saturated Vapor Pressure

### 9.26 Saturated Vapor Density

### 9.27 Ideal Gas Heat Capacity