

1-OCTENE

OTE

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Caprylene alpha-Octylene		Liquid	Colorless	Gasoline-like odor
Floats on water. Flammable, harmful vapor is produced.				
<p>Keep people away. Shut off ignition sources and call fire department. Stay upwind and use water spray to "knock down" vapor. Avoid contact with liquid and vapor. Notify local health and pollution control agencies. Protect water intakes.</p>				
Fire	<p>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.</p>			
Exposure	<p>CALL FOR MEDICAL AID.</p> <p>VAPOR If inhaled, will cause dizziness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>LIQUID Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING.</p>			
Water Pollution	<p>Effect of low concentrations on aquatic life is unknown. Fouling to shoreline. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.</p>			

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Skim
Chemical and Physical Treatment: Burn
Clean shore line
Salvage waterfowl

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 30; Olefin
2.2 Formula: CH(CH₂)₇CH=CH₂
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: Not listed
2.5 CAS Registry No.: 111-66-0
2.6 NAERG Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 51119

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Organic vapor canister; goggles or face shield.
3.2 **Symptoms Following Exposure:** Generally low toxicity. Mildly anesthetic at high vapor concentrations. May irritate eyes.
3.3 **Treatment of Exposure:** INHALATION: remove from exposure; support respiration. INGESTION: do NOT induce vomiting.
3.4 **TLV-TWA:** Not listed.
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:** Vapors cause a slight smarting of the eyes or respiratory system if present at high concentrations. The effect is temporary.
3.11 **Liquid or Solid Characteristics:** Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
3.12 **Odor Threshold:** Currently not available
3.13 **IDLH Value:** 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 AEGL:** Not listed

4. FIRE HAZARDS

- 4.1 **Flash Point:** 70°F O.C.
4.2 **Flammable Limits in Air:** 0.9% (LEL)
4.3 **Fire Extinguishing Agents:** Dry chemical, foam, or carbon dioxide
4.4 **Fire Extinguishing Agents Not to Be Used:** Water may be ineffective
4.5 **Special Hazards of Combustion Products:** Not pertinent
4.6 **Behavior in Fire:** Not pertinent
4.7 **Auto Ignition Temperature:** 493°F
4.8 **Electrical Hazards:** Not pertinent
4.9 **Burning Rate:** 6.5 mm/min.
4.10 **Adiabatic Flame Temperature:** Currently not available
4.11 **Stoichiometric Air to Fuel Ratio:** 57.1 (calc.)
4.12 **Flame Temperature:** Currently not available
4.13 **Combustion Molar Ratio (Reactant to Product):** 16.0 (calc.)
4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** 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:** Currently not available
6.2 **Waterfowl Toxicity:** Currently not available
6.3 **Biological Oxygen Demand (BOD):** 0.9% (theor.), 1 day
6.4 **Food Chain Concentration Potential:** None
6.5 **GESAMP Hazard Profile:**
Bioaccumulation: 0
Damage to living resources: 3
Human Oral hazard: 0
Human Contact hazard: I
Reduction of amenities: X

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Research: 99.7%; pure: 99.3%; technical: 95%
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:** B
7.6 **Ship Type:** 3
7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Not listed
8.2 **49 CFR Class:** Not pertinent
8.3 **49 CFR Package Group:** Not listed.
8.4 **Marine Pollutant:** No
8.5 **NFPA Hazard Classification:**
- | Category | Classification |
|---------------------------|----------------|
| Health Hazard (Blue)..... | 1 |
| Flammability (Red)..... | 3 |
| Instability (Yellow)..... | 0 |
- 8.6 **EPA Reportable Quantity:** Not listed.
8.7 **EPA Pollution Category:** Not listed.
8.8 **RCRA 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:** 112.22
9.3 **Boiling Point at 1 atm:** 250.3°F = 121.3°C = 394.5°K
9.4 **Freezing Point:** -151°F = -102°C = 172°K
9.5 **Critical Temperature:** 560.1°F = 293.4°C = 566.6°K
9.6 **Critical Pressure:** 400 psia = 27.2 atm = 2.76 MN/m²
9.7 **Specific Gravity:** 0.715 at 20°C (liquid)
9.8 **Liquid Surface Tension:** 21.76 dynes/cm = 0.02176 N/m at 20°C
9.9 **Liquid Water Interfacial Tension:** (est.) 50 dynes/cm = 0.05 N/m at 20°C
9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
9.11 **Ratio of Specific Heats of Vapor (Gas):** 1.050
9.12 **Latent Heat of Vaporization:** 129 Btu/lb = 71.9 cal/g = 3.01 X 10⁵ J/kg
9.13 **Heat of Combustion:** -19,170 Btu/lb = -10,650 cal/g = -445.89 X 10⁵ 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:** Currently not available
9.18 **Limiting Value:** Currently not available
9.19 **Reid Vapor Pressure:** Currently not available

NOTES

1-OCTENE

OTE

9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
40	45.470	0	0.483	0	1.153	40	0.567
50	45.180	10	0.487	5	1.143	50	0.530
60	44.890	20	0.491	10	1.133	60	0.497
70	44.610	30	0.495	15	1.123	70	0.467
80	44.320	40	0.499	20	1.113	80	0.440
90	44.030	50	0.503	25	1.103	90	0.415
100	43.740	60	0.507	30	1.092	100	0.393
110	43.450	70	0.511	35	1.082	110	0.372
120	43.170	80	0.515	40	1.072	120	0.353
130	42.880	90	0.519	45	1.062	130	0.336
140	42.590	100	0.524	50	1.052	140	0.320
150	42.300	110	0.528	55	1.042	150	0.306
160	42.010	120	0.532	60	1.032	160	0.292
170	41.730	130	0.536	65	1.022	170	0.280
180	41.440	140	0.540	70	1.012	180	0.268
190	41.150	150	0.544	75	1.002	190	0.257
200	40.860	160	0.548	80	0.992	200	0.247
210	40.580	170	0.552	85	0.982	210	0.238
		180	0.556	90	0.972		
		190	0.560	95	0.961		
		200	0.564	100	0.951		
		210	0.568	105	0.941		
				110	0.931		
				115	0.921		
				120	0.911		
				125	0.901		

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I	40	0.097	40	0.00204	0	0.334
	N	60	0.196	60	0.00394	25	0.349
	S	80	0.369	80	0.00715	50	0.364
	O	100	0.657	100	0.01227	75	0.378
	L	120	1.114	120	0.02009	100	0.392
	U	140	1.810	140	0.03155	125	0.406
	B	160	2.830	160	0.04775	150	0.420
	L	180	4.279	180	0.06994	175	0.434
	E	200	6.279	200	0.09951	200	0.448
		220	8.970	220	0.13800	225	0.461
		240	12.510	240	0.18690	250	0.474
		260	17.060	260	0.24790	275	0.487
		280	22.830	280	0.32260	300	0.500
		300	30.000	300	0.41280	325	0.513
		320	38.780	320	0.52000	350	0.525
		340	49.400	340	0.64580	375	0.537
		360	62.070	360	0.79160	400	0.550
		380	77.020	380	0.95900	425	0.561
						450	0.573
						475	0.585
						500	0.596
						525	0.608
						550	0.619
						575	0.630
						600	0.640