

# DIISOBUTYLENE

DBL

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> 2,4,4-Trimethyl-1-pentene	Liquid Colorless Gasoline-like odor  Floats on water. Flammable, irritating vapor is produced.
<b>Keep people away.</b> <b>Shut off ignition sources and call fire department.</b> <b>Stay upwind and use water spray to "knock down" vapor.</b> <b>Notify local health and pollution control agencies.</b>	
<b>Fire</b>	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.
<b>Exposure</b>	CALL FOR MEDICAL AID.  VAPOR Irritating to eyes, nose and throat. If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.  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.
<b>Water Pollution</b>	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.

### 1. CORRECTIVE RESPONSE ACTIONS

Stop discharge  
Collection Systems: Skim  
Salvage waterfowl

### 2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 30; Olefin  
2.2 Formula:  $(CH_3)_2CCH_2C(CH_3)=CH_2$   
2.3 IMO/UN Designation: 3.2/2050  
2.4 DOT ID No.: 2050  
2.5 CAS Registry No.: 12002-23-2  
2.6 NAERG Guide No.: 127  
2.7 Standard Industrial Trade Classification: 51119

### 3. HEALTH HAZARDS

3.1 **Personal Protective Equipment:** Protective goggles.  
3.2 **Symptoms Following Exposure:** Low general toxicity; may act as simple asphyxiant in high vapor concentrations.  
3.3 **Treatment of Exposure:** INHALATION: remove from exposure; support respiration.  
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:** Liver and kidney damage in exp. animals.  
3.10 **Vapor (Gas) Irritant Characteristics:** Vapors are nonirritating to the eyes and throat.  
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:** 35°F (est.)  
4.2 **Flammable Limits in Air:** 0.9% LEL (est.)  
4.3 **Fire Extinguishing Agents:** Dry chemicals, 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:** 788°F  
4.8 **Electrical Hazards:** Not pertinent  
4.9 **Burning Rate:** 7.9 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):** Currently not available  
6.4 **Food Chain Concentration Potential:** None  
6.5 **GESAMP Hazard Profile:** Not listed

### 7. SHIPPING INFORMATION

7.1 **Grades of Purity:** Research grade: 99.86%; Pure grade: 99.39%; Technical grade: 98.7%  
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:** Flammable liquid  
8.2 **49 CFR Class:** 3  
8.3 **49 CFR Package Group:** II  
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:** 214.7°F = 101.5°C = 374.7°K  
9.4 **Freezing Point:** -136.3°F = -93.5°C = 179.7°K  
9.5 **Critical Temperature:** 548.1°F = 286.7°C = 559.9°K  
9.6 **Critical Pressure:** 380 psia = 25.85 atm = 2.619 MN/m<sup>2</sup>  
9.7 **Specific Gravity:** 0.715 at 20°C (liquid)  
9.8 **Liquid Surface Tension:** 20.7 dynes/cm = 0.0207 N/m at 20°C  
9.9 **Liquid Water Interfacial Tension:** Currently not available  
9.10 **Vapor (Gas) Specific Gravity:** Not pertinent  
9.11 **Ratio of Specific Heats of Vapor (Gas):** (est.) 1.049  
9.12 **Latent Heat of Vaporization:** 110 Btu/lb = 60 cal/g = 2.5 X 10<sup>5</sup> J/kg  
9.13 **Heat of Combustion:** -18,900 Btu/lb = -10,500 cal/g = -440 X 10<sup>5</sup> 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:** 1.6 psia

### NOTES

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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
52	45.100	32	0.478	32	1.040		C
54	45.050	34	0.478	34	1.040		U
56	44.990	36	0.478	36	1.040		R
58	44.930	38	0.478	38	1.040		R
60	44.870	40	0.478	40	1.040		E
62	44.810	42	0.478	42	1.040		N
64	44.750	44	0.478	44	1.040		T
66	44.690	46	0.478	46	1.040		L
68	44.630	48	0.478	48	1.040		Y
70	44.570	50	0.478	50	1.040		
72	44.510	52	0.478	52	1.040		N
74	44.460	54	0.478	54	1.040		O
76	44.400	56	0.478	56	1.040		T
78	44.340	58	0.478	58	1.040		
80	44.280	60	0.478	60	1.040		A
82	44.220	62	0.478	62	1.040		V
84	44.160	64	0.478	64	1.040		A
86	44.100	66	0.478	66	1.040		I
88	44.040	68	0.478	68	1.040		L
90	43.980	70	0.478	70	1.040		A
92	43.920	72	0.478	72	1.040		B
94	43.870	74	0.478	74	1.040		L
96	43.810	76	0.478	76	1.040		E
98	43.750						
100	43.690						
102	43.630						

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	15	0.125	15	0.00275	100	0.399
	N	20	0.148	20	0.00323	120	0.412
	S	25	0.176	25	0.00379	140	0.424
	O	30	0.207	30	0.00443	160	0.436
	L	35	0.244	35	0.00516	180	0.447
	U	40	0.286	40	0.00599	200	0.459
	B	45	0.335	45	0.00694	220	0.470
	I	50	0.390	50	0.00801	240	0.481
	E	55	0.454	55	0.00921	260	0.492
		60	0.526	60	0.01058	280	0.503
		65	0.607	65	0.01210	300	0.513
		70	0.700	70	0.01382	320	0.524
		75	0.805	75	0.01573	340	0.534
		80	0.922	80	0.01787	360	0.544
		85	1.055	85	0.02025	380	0.554
		90	1.203	90	0.02289	400	0.564
		95	1.369	95	0.02581	420	0.573
		100	1.555	100	0.02905	440	0.582