

# DIOCTYL PHTHALATE

DOP

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> Di-(2-ethylhexyl) phthalate DOP Bis-(2-Ethylhexyl)phthalate Octoil Phthalic acid, bis (2-ethylhexyl ester)	Oily liquid                      Colorless                      Slight odor  Floats on water.
Call fire department. Notify local health and pollution control agencies. Protect water intakes.	
<b>Fire</b>	Combustible. Extinguish with dry chemical, foam, or carbon dioxide.
<b>Exposure</b>	Not harmful.
<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.

<b>1. CORRECTIVE RESPONSE ACTIONS</b> Stop discharge Contain Collection Systems: Skim Clean shore line Salvage waterfowl	<b>2. CHEMICAL DESIGNATIONS</b> 2.1 <b>CG Compatibility Group:</b> 34; Ester 2.2 <b>Formula:</b> $C_{24}H_{40}O_4$ $C_8H_{17}(COOCH_2CH_2C_6H_4)_2$ 2.3 <b>IMO/UN Designation:</b> Not listed 2.4 <b>DOT ID No.:</b> Not listed 2.5 <b>CAS Registry No.:</b> 117-84-0 2.6 <b>NAERG Guide No.:</b> Not listed 2.7 <b>Standard Industrial Trade Classification:</b> 51385
<b>3. HEALTH HAZARDS</b>	
3.1 <b>Personal Protective Equipment:</b> Not required 3.2 <b>Symptoms Following Exposure:</b> Produces no ill effects at normal temperatures but may give off irritating vapor at high temperature. 3.3 <b>Treatment of Exposure:</b> Leave contaminated area; wash skin with soap and water; flush eyes with water 3.4 <b>TLV-TWA:</b> Not listed. 3.5 <b>TLV-STEL:</b> Not listed. 3.6 <b>TLV-Ceiling:</b> Not listed. 3.7 <b>Toxicity by Ingestion:</b> Grade 0; LD <sub>50</sub> above 15 g/kg (rat) 3.8 <b>Toxicity by Inhalation:</b> Currently not available. 3.9 <b>Chronic Toxicity:</b> Not established 3.10 <b>Vapor (Gas) Irritant Characteristics:</b> Nonirritating to the eyes and throat. 3.11 <b>Liquid or Solid Characteristics:</b> No appreciable hazard. Practically harmless to the skin. 3.12 <b>Odor Threshold:</b> Currently not available 3.13 <b>IDLH Value:</b> Not listed. 3.14 <b>OSHA PEL-TWA:</b> Not listed. 3.15 <b>OSHA PEL-STEL:</b> Not listed. 3.16 <b>OSHA PEL-Ceiling:</b> Not listed. 3.17 <b>EPA AEGL:</b> Not listed	

<b>4. FIRE HAZARDS</b> 4.1 <b>Flash Point:</b> 425°F O.C. 4.2 <b>Flammable Limits in Air:</b> Not pertinent 4.3 <b>Fire Extinguishing Agents:</b> Dry chemical, carbon dioxide, foam 4.4 <b>Fire Extinguishing Agents Not to Be Used:</b> Water or foam may cause frothing 4.5 <b>Special Hazards of Combustion Products:</b> None 4.6 <b>Behavior in Fire:</b> Not pertinent 4.7 <b>Auto Ignition Temperature:</b> Currently not available 4.8 <b>Electrical Hazards:</b> Not pertinent 4.9 <b>Burning Rate:</b> Currently not available 4.10 <b>Adiabatic Flame Temperature:</b> Currently not available 4.11 <b>Stoichiometric Air to Fuel Ratio:</b> 149.9 (calc.) 4.12 <b>Flame Temperature:</b> Currently not available 4.13 <b>Combustion Molar Ratio (Reactant to Product):</b> 43.0 (calc.) 4.14 <b>Minimum Oxygen Concentration for Combustion (MOCC):</b> Not listed	<b>7. SHIPPING INFORMATION</b> 7.1 <b>Grades of Purity:</b> Currently not available 7.2 <b>Storage Temperature:</b> Ambient 7.3 <b>Inert Atmosphere:</b> No requirement 7.4 <b>Venting:</b> Open (flame arrester) 7.5 <b>IMO Pollution Category:</b> Currently not available 7.6 <b>Ship Type:</b> Currently not available 7.7 <b>Barge Hull Type:</b> Currently not available								
<b>5. CHEMICAL REACTIVITY</b>									
5.1 <b>Reactivity with Water:</b> No reaction 5.2 <b>Reactivity with Common Materials:</b> No reaction 5.3 <b>Stability During Transport:</b> Stable 5.4 <b>Neutralizing Agents for Acids and Caustics:</b> Not pertinent 5.5 <b>Polymerization:</b> Not pertinent 5.6 <b>Inhibitor of Polymerization:</b> Not pertinent									
<b>6. WATER POLLUTION</b>									
6.1 <b>Aquatic Toxicity:</b> Currently not available 6.2 <b>Waterfowl Toxicity:</b> Currently not available 6.3 <b>Biological Oxygen Demand (BOD):</b> Currently not available 6.4 <b>Food Chain Concentration Potential:</b> None 6.5 <b>GESAMP Hazard Profile:</b> Bioaccumulation: 0 Damage to living resources: 2 Human Oral hazard: 1 Human Contact hazard: II Reduction of amenities: XX									
<b>8. HAZARD CLASSIFICATIONS</b>									
8.1 <b>49 CFR Category:</b> Not listed 8.2 <b>49 CFR Class:</b> Not pertinent 8.3 <b>49 CFR Package Group:</b> Not listed. 8.4 <b>Marine Pollutant:</b> No 8.5 <b>NFPA Hazard Classification:</b> <table style="width: 100%; border: none;"> <tr> <td style="text-align: right;">Category</td> <td style="text-align: right;">Classification</td> </tr> <tr> <td style="text-align: right;">Health Hazard (Blue).....</td> <td style="text-align: right;">0</td> </tr> <tr> <td style="text-align: right;">Flammability (Red).....</td> <td style="text-align: right;">1</td> </tr> <tr> <td style="text-align: right;">Instability (Yellow).....</td> <td style="text-align: right;">0</td> </tr> </table> 8.6 <b>EPA Reportable Quantity:</b> 5000 pounds 8.7 <b>EPA Pollution Category:</b> D 8.8 <b>RCRA Waste Number:</b> U107 8.9 <b>EPA FWPCA List:</b> Not listed		Category	Classification	Health Hazard (Blue).....	0	Flammability (Red).....	1	Instability (Yellow).....	0
Category	Classification								
Health Hazard (Blue).....	0								
Flammability (Red).....	1								
Instability (Yellow).....	0								
<b>9. PHYSICAL &amp; CHEMICAL PROPERTIES</b>									
9.1 <b>Physical State at 15° C and 1 atm:</b> Liquid 9.2 <b>Molecular Weight:</b> 390.6 9.3 <b>Boiling Point at 1 atm:</b> 727°F = 386°C = 659°K 9.4 <b>Freezing Point:</b> Currently not available 9.5 <b>Critical Temperature:</b> Not pertinent 9.6 <b>Critical Pressure:</b> Not pertinent 9.7 <b>Specific Gravity:</b> 0.980 at 25°C (liquid) 9.8 <b>Liquid Surface Tension:</b> (est.) 15 dynes/cm = 0.015 N/m at 20°C 9.9 <b>Liquid Water Interfacial Tension:</b> (est.) 30 dynes/cm = 0.03 N/m at 20°C 9.10 <b>Vapor (Gas) Specific Gravity:</b> Not pertinent 9.11 <b>Ratio of Specific Heats of Vapor (Gas):</b> Not pertinent 9.12 <b>Latent Heat of Vaporization:</b> Not pertinent 9.13 <b>Heat of Combustion:</b> -15,130 Btu/lb = -8410 cal/g = -352 X 10 <sup>3</sup> J/kg 9.14 <b>Heat of Decomposition:</b> Not pertinent 9.15 <b>Heat of Solution:</b> Not pertinent 9.16 <b>Heat of Polymerization:</b> Not pertinent 9.17 <b>Heat of Fusion:</b> Currently not available 9.18 <b>Limiting Value:</b> Currently not available 9.19 <b>Reid Vapor Pressure:</b> Low									
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
34	62.350	32	0.478	45	0.944	32	15.670
36	62.280	34	0.478	50	0.942	34	14.770
38	62.210	36	0.478	55	0.940	36	13.920
40	62.150	38	0.478	60	0.939	38	13.140
42	62.080	40	0.478	65	0.937	40	12.400
44	62.010	42	0.478	70	0.935	42	11.700
46	61.940	44	0.478	75	0.933	44	11.060
48	61.870	46	0.478	80	0.931	46	10.450
50	61.800	48	0.478	85	0.929	48	9.878
52	61.730	50	0.478	90	0.927	50	9.343
54	61.660	52	0.478	95	0.925	52	8.841
56	61.590	54	0.478	100	0.924	54	8.370
58	61.520	56	0.478	105	0.922	56	7.927
60	61.450	58	0.478	110	0.920	58	7.511
62	61.380	60	0.478	115	0.918	60	7.119
64	61.310	62	0.478	120	0.916	62	6.751
66	61.240	64	0.478	125	0.914	64	6.404
68	61.170	66	0.478	130	0.912	66	6.078
70	61.100	68	0.478	135	0.911	68	5.770
72	61.040	70	0.478	140	0.909	70	5.481
74	60.970	72	0.478	145	0.907	72	5.207
76	60.900	74	0.478	150	0.905	74	4.950
78	60.830	76	0.478	155	0.903	76	4.707
80	60.760			160	0.901		
82	60.690			165	0.899		
84	60.620			170	0.897		

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
77	0.005	340	0.006	340	0.00026		N
		345	0.007	345	0.00030		O
		350	0.008	350	0.00036		T
		355	0.009	355	0.00041		
		360	0.011	360	0.00048		P
		365	0.013	365	0.00056		E
		370	0.015	370	0.00064		R
		375	0.017	375	0.00074		T
		380	0.020	380	0.00086		I
		385	0.023	385	0.00099		N
		390	0.026	390	0.00113		E
		395	0.031	395	0.00130		N
		400	0.035	400	0.00149		T
		405	0.040	405	0.00170		
		410	0.046	410	0.00194		
		415	0.053	415	0.00222		
		420	0.061	420	0.00252		
		425	0.070	425	0.00287		
		430	0.080	430	0.00325		
		435	0.091	435	0.00369		
		440	0.103	440	0.00417		
		445	0.117	445	0.00471		