

# OILS, FUEL: NO. 6

OSX

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b>		Thick heated liquid	Black	Tar odor
Bunker C oil No. 6 Residual fuel oil		Usually floats on water.		
<p style="color: red;">Shut off ignition sources and call fire department. Keep people away. Avoid contact with liquid. Notify local health and pollution control agencies. Protect water intakes.</p>				
<b>Fire</b>	Combustible. 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.  LIQUID Irritating to skin and eyes. Harmful if swallowed. 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>	Dangerous to aquatic life in high concentrations. 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 Chemical and Physical Treatment: Burn; Absorb Clean shore line Salvage waterfowl	<b>2. CHEMICAL DESIGNATIONS</b> 2.1 <b>CG Compatibility Group:</b> 33; Miscellaneous hydrocarbon mixture 2.2 <b>Formula:</b> Not listed 2.3 <b>IMO/UN Designation:</b> 3.3/1223 2.4 <b>DOT ID No.:</b> 1993 2.5 <b>CAS Registry No.:</b> Currently not available 2.6 <b>NAERG Guide No.:</b> 128 2.7 <b>Standard Industrial Trade Classification:</b> 33440
<b>3. HEALTH HAZARDS</b>	
3.1 <b>Personal Protective Equipment:</b> Protective gloves; goggles or face shield. 3.2 <b>Symptoms Following Exposure:</b> INGESTION: gastrointestinal irritation. ASPIRATION: pulmonary irritation is normally minimal but may become more severe several hours after exposure. 3.3 <b>Treatment of Exposure:</b> INGESTION: do NOT lavage or induce vomiting. ASPIRATION: treatment probably not required; delayed development of pulmonary irritation can be detected by serial chest x-rays; consider prophylactic antibiotic regime if condition warrants. EYES: wash with copious quantity of water. SKIN: wipe off and wash with soap and water. 3.4 <b>TLV-TWA:</b> Notice of intended change: 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 1; LD <sub>50</sub> = 5 to 15 g/kg 3.8 <b>Toxicity by Inhalation:</b> Currently not available. 3.9 <b>Chronic Toxicity:</b> Currently not available 3.10 <b>Vapor (Gas) Irritant Characteristics:</b> None 3.11 <b>Liquid or Solid Characteristics:</b> Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of 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	

## 4. FIRE HAZARDS

- 4.1 **Flash Point:**  
>150°F C.C.
- 4.2 **Flammable Limits in Air:** 1%-5%
- 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:** 765°F
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** 4 mm/min.
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** Not pertinent.
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Not pertinent.
- 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:**  
2400 ppm/48 hr/juvenile American shad/TL<sub>w</sub>/fresh water  
2417 mg/l/48 hr/juvenile American shad/TL<sub>w</sub>/salt water
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** Currently not available
- 6.4 **Food Chain Concentration Potential:** Currently not available
- 6.5 **GESAMP Hazard Profile:** Not listed

## 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Commercial
- 7.2 **Storage Temperature:** Elevated
- 7.3 **Inert Atmosphere:** No requirement
- 7.4 **Venting:** Open (flame arrester)
- 7.5 **IMO Pollution Category:** Currently not available
- 7.6 **Ship Type:** Currently not available
- 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:** III
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue).....	0
Flammability (Red).....	2
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 FWP/CA List:** Not listed

## 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid
- 9.2 **Molecular Weight:** Not pertinent
- 9.3 **Boiling Point at 1 atm:** 415-->1093°F = 212-->588°C = 485-->861°K
- 9.4 **Freezing Point:** 25 to 55°F = -4 to +13°C = 269 to 286°K
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 0.95 (approx.) at 20°C (liquid)
- 9.8 **Liquid Surface Tension:** (est.) 25 dynes/cm = 0.025 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):** Not pertinent
- 9.12 **Latent Heat of Vaporization:** Not pertinent
- 9.13 **Heat of Combustion:** -18,000 Btu/lb = -10,000 cal/g = -418.68 X 10<sup>3</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:** Currently not available

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
50	60.300	50	0.460	40	0.846	100	493.500
52	60.300	52	0.461	45	0.846		
54	60.300	54	0.462	50	0.846		
56	60.300	56	0.463	55	0.846		
58	60.300	58	0.464	60	0.846		
60	60.300	60	0.465	65	0.846		
62	60.300	62	0.466	70	0.846		
64	60.300	64	0.467	75	0.846		
66	60.300	66	0.468	80	0.846		
68	60.300	68	0.469	85	0.846		
70	60.300	70	0.470	90	0.846		
72	60.300	72	0.471	95	0.846		
74	60.300	74	0.472	100	0.846		
76	60.300	76	0.473	105	0.846		
78	60.300	78	0.474				
80	60.300	80	0.475				
82	60.300	82	0.476				
84	60.300	84	0.477				
		86	0.478				
		88	0.479				
		90	0.480				
		92	0.481				
		94	0.482				
		96	0.483				
		98	0.484				
		100	0.485				

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 N S O L U B I L I T Y	70	0.042		N O T		N O T
		75	0.049				
		80	0.057				
		85	0.065				
		90	0.076		P E R T I N E N T		P E R T I N E N T
		95	0.087				
		100	0.100				
		105	0.114				
		110	0.131				
		115	0.149				
		120	0.170				
		125	0.193				
		130	0.218				
		135	0.247				
		140	0.279				
		145	0.314				
		150	0.352				
		155	0.395				
		160	0.443				
		165	0.495				
		170	0.552				
		175	0.615				
		180	0.683				
		185	0.758				
		190	0.841				
		195	0.930				