

# OILS, MISCELLANEOUS: TURBINE

OTB

CAUTIONARY RESPONSE INFORMATION			
Common Synonyms Steam turbine lube oil Steam turbine oil Turbine oil	Liquid	Colorless to light brown	Kerosene-like odor
Floats on water.			
Keep people away. Call fire department. Notify local health and pollution control agencies. Protect water intakes.			
Fire	Combustible. Extinguish with dry chemicals, foam or carbon dioxide. Water may be ineffective on fire.		
Exposure	Call for medical aid.  VAPOR Irritating to eyes, nose and throat. Move victim to fresh air. If breathing is difficult, give oxygen.  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.		
Water Pollution	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	2. CHEMICAL DESIGNATIONS
Stop discharge Contain Collection Systems: Skim Clean shore line Salvage waterfowl	2.1 CG Compatibility Group: 33; Miscellaneous hydrocarbon mixture 2.2 Formula: Not pertinent 2.3 IMO/UN Designation: Not listed 2.4 DOT ID No.: Not listed 2.5 CAS Registry No.: Currently not available 2.6 NAERG Guide No.: Not listed 2.7 Standard Industrial Trade Classification: 33450
<b>3. HEALTH HAZARDS</b>	
3.1 Personal Protective Equipment: Goggles or face shield; rubber gloves. 3.2 Symptoms Following Exposure: Contact with liquid causes slight irritation of eyes and (on prolonged contact) skin. Ingestion causes slight irritation of stomach and bowel, increased frequency of bowel movement. 3.3 Treatment of Exposure: EYES: wash with copious quantity of water for at least 15 min. SKIN: wipe off; wash with soap and water. INGESTION: do NOT induce vomiting; do NOT lavage; 2-4 oz. olive oil and 1-2 oz. activated charcoal may be given. 3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 0; LD <sub>50</sub> > 15 g/kg (rat) 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Currently not available 3.11 Liquid or Solid Characteristics: Currently not available 3.12 Odor Threshold: Currently not available 3.13IDLH 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	7. SHIPPING INFORMATION
4.1 Flash Point: 390–485°F O.C. 4.2 Flammable Limits in Air: Not pertinent 4.3 Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide, water fog. 4.4 Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing; 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: 700°F 4.8 Electrical Hazards: Not pertinent 4.9 Burning Rate: (approx.) 4mm/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	7.1 Grades of Purity: Solvent refined paraffinic oils; 98.54%. Grades vary in viscosity and flash point. 7.2 Storage Temperature: Ambient 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: 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)..... 0 Flammability (Red)..... 1 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: Not pertinent 9.4 Freezing Point: Not pertinent 9.5 Critical Temperature: Not pertinent 9.6 Critical Pressure: Not pertinent 9.7 Specific Gravity: 0.87 at 20°C (liquid) 9.8 Liquid Surface Tension: 25 dynes/cm = 0.025 N/m at 20°C 9.9 Liquid Water Interfacial Tension: 50 dynes/cm = 0.050 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: (est.) -17,600 Btu/lb = -9,800 cal/g = -410 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: 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
42	55.210	52	0.480	35	0.918		N O T
44	55.140	54	0.480	40	0.917		
46	55.070	56	0.480	45	0.916		
48	55.000	58	0.480	50	0.915		
50	54.930	60	0.480	55	0.914		
52	54.860	62	0.480	60	0.913		
54	54.790	64	0.480	65	0.912		
56	54.720	66	0.480	70	0.911		
58	54.650	68	0.480	75	0.909		
60	54.580	70	0.480	80	0.908		
62	54.520	72	0.480	85	0.907		
64	54.450	74	0.480	90	0.906		
66	54.380	76	0.480	95	0.905		
68	54.310	78	0.480	100	0.904		
70	54.240	80	0.480	105	0.903		
72	54.170	82	0.480	110	0.902		
74	54.100	84	0.480	115	0.900		
76	54.030	86	0.480	120	0.899		
78	53.960						
80	53.890						
82	53.820						
84	53.750						
86	53.680						

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 L E		N O T  P E R T I N E T		N O T  P E R T I N E T		N O T  P E R T I N E T