OILS, MISCELLANEOUS: TRANSFORMER

OTF

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
Electrical insulating oil Insulating oil Petroleum insulating oil	Oily liquid Floats on water.	Colorless to light brown	Motor oil-like odor

Call fire department.
Avoid contact with liquid.
Notify local health and pollution control agencies.
Protect water intakes.

Fire	Combustible. Extinguish with foam, dry chemical, carbon dioxide. Water may be ineffective on fire.
Exposure	CALL FOR MEDICAL AID. LIQUID Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing. 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

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

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 33; Miscellaneous Hydrocarbon Mixtures
2.2 Formula: Not applicable
2.3 IMO/UN Designation: 3.3/1270
2.4 DOT ID No.: 1268
2.5 CAS Registry No.: Currently not available
2.6 NAERG Guide No.: 128
2.7 Standard Industrial Trade Classification: 32429

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Protective gloves; goggles or face shield.
3.2 Symptoms Following Exposure: Ingestion of liquid may irritate stomach and cause increased frequency of bowel movements. If taken into lungs, delayed pulmonary irritation may occur.
3.3 Treatment of Exposure: INGESTION: do NOT induce vomiting. ASPIRATION: check for delayed irritation by serial X-rays. EYES: wash with copious amounts of water. SKIN: wipe off and wash with soap and water.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 1; LD_{50} = 5 to 15 g/kg
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 in 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: 295°F O.C.
4.2 Flammable Limits in Air: Currently not available
4.3 Fire Extinguishing Agents: Foam, dry chemical, 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: Currently not available
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric 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: 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: Currently not available
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: 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).....	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 FWPCA 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: Very high
9.4 Freezing Point: –75°F = –59°C = 214°K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 0.891 at 15°C (liquid)
9.8 Liquid Surface Tension: Currently not available
9.9 Liquid Water Interfacial Tension: 49 dynes/cm = 0.049 N/m at 25°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: Currently not available
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	55.560	50	0.463	65	0.790	100	10.250
52	55.560	52	0.463	70	0.790		
54	55.560	54	0.463	75	0.790		
56	55.560	56	0.463	80	0.790		
58	55.560	58	0.463	85	0.790		
60	55.560	60	0.463	90	0.790		
62	55.560	62	0.463	95	0.790		
64	55.560	64	0.463	100	0.790		
66	55.560	66	0.463	105	0.790		
68	55.560	68	0.463	110	0.790		
70	55.560	70	0.463	115	0.790		
72	55.560	72	0.463	120	0.790		
74	55.560	74	0.463	125	0.790		
76	55.560	76	0.463	130	0.790		
78	55.560	78	0.463	135	0.790		
80	55.560	80	0.463				
82	55.560	82	0.463				
84	55.560	84	0.463				
		86	0.463				
		88	0.463				
		90	0.463				
		92	0.463				
		94	0.463				
		96	0.463				
		98	0.463				
		100	0.463				

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	70	0.042		N O T P E R T I N E N T		N O T P E R T I N E N T
		75	0.049				
		80	0.057				
		85	0.065				
		90	0.076				
		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				