OILS, FUEL: 1-D

OOD

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
Diesel oil (light)	Oily liquid Floats on water.	Yellow-brown	Lube or fuel oil odor

Keep people away. Avoid contact with liquid.
Shut off ignition sources and call fire department.
Notify local health and pollution control agencies.
Protect water intakes.

Fire

Combustible.
Extinguish with dry chemical, foam or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

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.

Water Pollution

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.

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Skim
Chemical and Physical Treatment: Burn; 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: 3.1/1270
2.4 DOT ID No.: 1993
2.5 CAS Registry No.: 68334-30-5
2.6 NAERG Guide No.: 128
2.7 Standard Industrial Trade Classification: 33440

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Protective gloves; goggles or face shield.
3.2 Symptoms Following Exposure: INHALATION causes headache and slight giddiness. INGESTION causes nausea, vomiting, and cramping; depression of central nervous system ranging from mild headache to anesthesia, coma, and death; pulmonary irritation secondary to exhalation of solvent; signs of kidney and liver damage may be delayed. ASPIRATION causes severe lung irritation with coughing, gagging, dyspnea, substernal distress, and rapidly developing pulmonary edema; later, signs of bronchopneumonia and pneumonitis; acute onset of central nervous system excitement followed by depression.
3.3 Treatment of Exposure: INGESTION: do NOT induce vomiting; seek medical attention. ASPIRATION: enforce bed rest; administer oxygen. EYES: wash with copious quantity of water. SKIN: remove solvent by wiping and wash with soap and water.
3.4 TLV-TWA: Notice of intended change: 100 mg/m^3 (skin)
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 1; LD_{50} = 5-15 g/kg
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: Slight smarting of 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 skin.
3.12 Odor Threshold: 0.7 ppm
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: 100°F C.C.
4.2 Flammable Limits in Air: 1.3%-6%
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: 350–625°F
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: 4 mm/min.
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: 204 mg/1/24 hr/juvenile American shad/TL_m/salt water
6.2 Waterfowl Toxicity: 20 mg/kg LD_{50} (mallard)
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: Diesel fuel 1-D (ASTM)
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: Combustible liquid
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).....	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 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: 380–560°F = 193–293°C = 466–566°K
9.4 Freezing Point: –30°F = –34°C = 240°K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 0.81–0.85 at 15°C (liquid)
9.8 Liquid Surface Tension: 23–32 dynes/cm = 0.023–0.032 N/m at 20°C
9.9 Liquid Water Interfacial Tension: 47–49 dynes/cm = 0.047–0.049 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: 110 Btu/lb = 60 cal/g = 2.5 X 10^5 J/kg
9.13 Heat of Combustion: –18,540 Btu/lb = –10,300 cal/g = –431.24 X 10^5 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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OOD

9.20 SATURATED LIQUID DENSITY	
Temperature (degrees F)	Pounds per cubic foot
34	51.430
36	51.360
38	51.290
40	51.220
42	51.150
44	51.080
46	51.010
48	50.940
50	50.870
52	50.800
54	50.740
56	50.670
58	50.600
60	50.530
62	50.460
64	50.390
66	50.320
68	50.250
70	50.180
72	50.110
74	50.040
76	49.970
78	49.900
80	49.830
82	49.760
84	49.690

9.21 LIQUID HEAT CAPACITY	
Temperature (degrees F)	British thermal unit per pound-F
70	0.469
75	0.471
80	0.474
85	0.476
90	0.479
95	0.481
100	0.484
105	0.486
110	0.489
115	0.491
120	0.494
125	0.496
130	0.499
135	0.501
140	0.504
145	0.506
150	0.509
155	0.511
160	0.514
165	0.516
170	0.519
175	0.521
180	0.524
185	0.526
190	0.529
195	0.531

9.22 LIQUID THERMAL CONDUCTIVITY	
Temperature (degrees F)	British thermal unit inch per hour-square foot-F
50	0.964
60	0.964
70	0.964
80	0.964
90	0.964
100	0.964
110	0.964
120	0.964
130	0.964
140	0.964
150	0.964
160	0.964
170	0.964
180	0.964
190	0.964
200	0.964

9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Centipoise
-30	6.065
-25	5.482
-20	4.965
-15	4.508
-10	4.101
-5	3.739
0	3.416
5	3.127
10	2.867
15	2.634
20	2.424
25	2.235
30	2.064
35	1.909
40	1.768
45	1.641
50	1.525
55	1.419
60	1.322
65	1.233
70	1.152
75	1.078

9.24 SOLUBILITY IN WATER	
Temperature (degrees F)	Pounds per 100 pounds of water
	INSOLUBLE

9.25 SATURATED VAPOR PRESSURE	
Temperature (degrees F)	Pounds per square inch
70	0.041
80	0.056
90	0.075
100	0.099
110	0.130
120	0.168
130	0.217
140	0.277
150	0.350
160	0.440
170	0.548
180	0.679
190	0.835
200	1.021
210	1.241
220	1.500
230	1.802
240	2.154
250	2.562
260	3.033
270	3.573
280	4.192
290	4.896
300	5.695

9.26 SATURATED VAPOR DENSITY	
Temperature (degrees F)	Pounds per cubic foot
	NOT PERTINENT

9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	British thermal unit per pound-F
	NOT PERTINENT