OILS, FUEL: NO. 1

OON

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
JP-1 Kerosene Kerosine Range oil	Watery liquid Floats on water.	Colorless	Kerosene 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: 3.3/1223
2.4 DOT ID No.: 1223
2.5 CAS Registry No.: 8008-20-6
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: INGESTION causes irritation of gastrointestinal tract; pulmonary tract irritation secondary to exhalation of vapors. ASPIRATION causes severe lung irritation with coughing, gagging, dyspnea, substernal distress, and rapidly developing pulmonary edema, signs of bronchopneumonia and pneumonitis appear later; minimal central nervous system depression.
3.3 Treatment of Exposure: INGESTION: do NOT lavage or induce vomiting; call physician. ASPIRATION: enforce bed rest; administer oxygen; call physician. EYES: wash with plenty of water. SKIN: wipe off 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: 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: 1 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: 0.7%-5%
4.3 Fire Extinguishing Agents: Dry chemical, foam, 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: 444°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: 2990 ppm/24 hr/bluegill/TL_m/fresh water
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): 53%, 5 days
6.4 Food Chain Concentration Potential: None
6.5 GESAMP Hazard Profile: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: Light hydrocarbon distillate: 100%
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).....	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: –45 to –55°F = –43 to –48°C = 230 to 225°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 to 49 dynes/cm = 0.047 to 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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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	51.430	70	0.469	0	0.926	-35	6.727
36	51.360	75	0.471	10	0.924	-30	6.065
38	51.290	80	0.474	20	0.921	-25	5.482
40	51.220	85	0.476	30	0.919	-20	4.965
42	51.150	90	0.479	40	0.917	-15	4.508
44	51.080	95	0.481	50	0.915	-10	4.101
46	51.010	100	0.484	60	0.913	-5	3.739
48	50.940	105	0.486	70	0.911	0	3.416
50	50.870	110	0.489	80	0.909	5	3.127
52	50.800	115	0.491	90	0.907	10	2.867
54	50.740	120	0.494	100	0.905	15	2.634
56	50.670	125	0.496	110	0.903	20	2.424
58	50.600	130	0.499	120	0.901	25	2.235
60	50.530	135	0.501	130	0.899	30	2.064
62	50.460	140	0.504	140	0.897	35	1.909
64	50.390	145	0.506	150	0.895	40	1.768
66	50.320	150	0.509	160	0.893	45	1.641
68	50.250	155	0.511	170	0.891	50	1.525
70	50.180	160	0.514	180	0.889	55	1.419
72	50.110	165	0.516	190	0.887	60	1.322
74	50.040	170	0.519	200	0.885	65	1.233
76	49.970	175	0.521	210	0.883	70	1.152
78	49.900	180	0.524			75	1.078
80	49.830	185	0.526				
82	49.760	190	0.529				
84	49.690	195	0.531				

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	0.041		N O T P E R T I N E N T		N O T P E R T I N E N T
		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				