

# JET FUELS: JP-4

JPF

CAUTIONARY RESPONSE INFORMATION				4. FIRE HAZARDS		7. SHIPPING INFORMATION					
Common Synonyms		Watery liquid	Colorless	Fuel oil odor		7.1 Grades of Purity: 100%					
Floats on water.											
Keep people away. Shut off ignition sources and call fire department. Avoid contact with liquid. Notify local health and pollution control agencies.				4.1 Flash Point: -10°F to +30°F C.C.		7.2 Storage Temperature: Ambient					
Fire											
FLAMMABLE. Extinguish with dry chemical, foam, or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water.				4.2 Flammable Limits in Air: 1.3%-8.0%		7.3 Inert Atmosphere: No requirement					
Exposure											
CALL FOR MEDICAL AID.				7.4 Venting: Open (flame arrester) or pressure-vacuum		7.5 IMO Pollution Category: Currently not available					
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.						7.6 Ship Type: Currently not available					
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.		7.7 Barge Hull Type: Currently not available							
1. CORRECTIVE RESPONSE ACTIONS				4.8 Electrical Hazards: Not pertinent							
Stop discharge Contain Collection Systems: Skim Chemical and Physical Treatment: Burn Clean shore line Salvage waterfowl				4.9 Burning Rate: 4 mm/min.							
2. CHEMICAL DESIGNATIONS				4.10 Adiabatic Flame Temperature: Currently not available							
2.1 CG Compatibility Group: 33; Miscellaneous Hydrocarbon Mixtures				4.11 Stoichiometric Air to Fuel Ratio: Not pertinent							
2.2 Formula: $C_{n}H_{2n+2}$				4.12 Flame Temperature: Currently not available							
2.3 IMO/UN Designation: 3.2/1863				4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent.							
2.4 DOT ID No.: 1863				4.14 Minimum Oxygen Concentration for Combustion (MOCC): N <sub>2</sub> diluent: 11.5%; CO <sub>2</sub> diluent: 14.5%							
2.5 CAS Registry No.: Currently not available				5. CHEMICAL REACTIVITY							
2.6 NAERG Guide No.: 128				5.1 Reactivity with Water: No reaction							
2.7 Standard Industrial Trade Classification: 33412				5.2 Reactivity with Common Materials: No reaction							
3. HEALTH HAZARDS				5.3 Stability During Transport: Stable							
3.1 Personal Protective Equipment: Protective gloves; goggles or face shield.				5.4 Neutralizing Agents for Acids and Caustics: Not pertinent							
3.2 Symptoms Following Exposure: Vapor causes slight irritation of eyes and nose. Liquid irritates stomach; if taken into lungs, causes coughing, distress, and rapidly developing pulmonary edema.				5.5 Polymerization: Not pertinent							
3.3 Treatment of Exposure: ASPIRATION: enforce bed rest; administer oxygen; call a doctor. INGESTION: do NOT induce vomiting; call a doctor. EYES: wash with plenty of water. SKIN: wipe off and wash with soap and water.				5.6 Inhibitor of Polymerization: Not pertinent							
3.4 TLV-TWA: Not listed.				6. WATER POLLUTION							
3.5 TLV-STEL: Not listed.				6.1 Aquatic Toxicity: 500 ppm*/salmon fingerling/lethal/ fresh water *Time period not specified							
3.6 TLV-Ceiling: Not listed.				6.2 Waterfowl Toxicity: Currently not available							
3.7 Toxicity by Ingestion: Grade 2; LD <sub>50</sub> = 0.5 to 5 g/kg				6.3 Biological Oxygen Demand (BOD): 53%, 5 days							
3.8 Toxicity by Inhalation: Currently not available.				6.4 Food Chain Concentration Potential: None							
3.9 Chronic Toxicity: Currently not available				6.5 GESAMP Hazard Profile: Not listed							
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.				7. NOTES							
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											
3.13IDLH 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											

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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	51.740	0	0.444	0	0.926	-35	2.106
36	51.670	10	0.449	10	0.924	-30	1.994
38	51.600	20	0.454	20	0.921	-25	1.890
40	51.530	30	0.459	30	0.919	-20	1.794
42	51.460	40	0.464	40	0.917	-15	1.705
44	51.390	50	0.469	50	0.915	-10	1.622
46	51.320	60	0.474	60	0.913	-5	1.544
48	51.260	70	0.479	70	0.911	0	1.472
50	51.190	80	0.484	80	0.909	5	1.405
52	51.120	90	0.489	90	0.907	10	1.342
54	51.050	100	0.494	100	0.905	15	1.283
56	50.980	110	0.499	110	0.903	20	1.228
58	50.910	120	0.504	120	0.901	25	1.176
60	50.840	130	0.509	130	0.899	30	1.128
62	50.770	140	0.514	140	0.897	35	1.082
64	50.700	150	0.519	150	0.895	40	1.039
66	50.630	160	0.524	160	0.893	45	0.999
68	50.560	170	0.529	170	0.891	50	0.961
70	50.490	180	0.534	180	0.889	55	0.925
72	50.420	190	0.539	190	0.887	60	0.891
74	50.350	200	0.544	200	0.885	65	0.859
76	50.280	210	0.549	210	0.883	70	0.829
78	50.220					75	0.800
80	50.150						
82	50.080						
84	50.010						

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	0	0	0.319	N	O	C	
N	10	0.411		S	T	U	
S	20	0.525		O	R	R	
O	30	0.663		T	E	R	
L	40	0.829		P	R	E	
U	50	1.028		T	I	N	
B	60	1.264		T	N	T	
L	70	1.542		T	E	O	
E	80	1.868		T	A	N	
	90	2.246		T	V	A	
	100	2.684		T	I	L	
	110	3.187		T	N	A	
	120	3.762		T	E	M	
	130	4.416		T	A	A	
	140	5.155		T	V	A	
	150	5.988		T	I	L	
	160	6.922		T	N	A	
	170	7.965		T	E	M	
	180	9.125		T	A	A	
	190	10.410		T	V	L	
	200	11.830		T	I	A	
	210	13.390		T	N	M	