

MINERAL SPIRITS

MNS

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Naphtha Petroleum spirits		Watery liquid	Colorless	Gasoline-like odor
Floats on water.				
Keep people away. Avoid contact with liquid. Shut off ignition sources and call fire department. Notify local health and pollution control agencies.				
Fire	Combustible. Extinguish with water, dry chemical, foam, or carbon dioxide. 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	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.			

<p>1. CORRECTIVE RESPONSE ACTIONS</p> <ul style="list-style-type: none"> Stop discharge Contain Collection Systems: Skim Chemical and Physical Treatment: Burn Clean shore line Salvage waterfowl 	<p>2. CHEMICAL DESIGNATIONS</p> <ul style="list-style-type: none"> 2.1 CG Compatibility Group: 33; Miscellaneous Hydrocarbon Mixtures 2.2 Formula: Not applicable 2.3 IMO/UN Designation: 3.3/1300 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: 33429
<p>3. HEALTH HAZARDS</p> <ul style="list-style-type: none"> 3.1 Personal Protective Equipment: Plastic gloves; goggles or face shield (as for gasoline). 3.2 Symptoms Following Exposure: INHALATION: mild irritation of respiratory tract. ASPIRATION: severe lung irritation and rapidly developing pulmonary edema; central nervous system excitement followed by depression. INGESTION: irritation of stomach. 3.3 Treatment of Exposure: INHALATION: remove victim to fresh air. ASPIRATION: enforce bed rest; give oxygen; call a doctor. INGESTION: do NOT induce vomiting; guard against aspiration into lungs. 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 2; LD₅₀ = 0.5 to 5 g/kg 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Vapors are nonirritating to the eyes and throat. 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 	

<p>4. FIRE HAZARDS</p> <ul style="list-style-type: none"> 4.1 Flash Point: 105–140°F C.C., depending on grade 4.2 Flammable Limits in Air: 0.8%-5.0% 4.3 Fire Extinguishing Agents: Foam, carbon dioxide, dry chemical 4.4 Fire Extinguishing Agents Not to Be Used: Do not use straight hose water stream. 4.5 Special Hazards of Combustion Products: Not pertinent 4.6 Behavior in Fire: Not pertinent 4.7 Auto Ignition Temperature: 540°F 4.8 Electrical Hazards: Not pertinent 4.9 Burning Rate: 4 mm/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 	<p>7. SHIPPING INFORMATION</p> <ul style="list-style-type: none"> 7.1 Grades of Purity: Various grades available. 70-100% of the materials are derived from petroleum, and 0-30% are aromatic hydrocarbons like benzene and toluene. Flash points vary with the exact composition but are usually above 100°F. 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 								
<p>5. CHEMICAL REACTIVITY</p> <ul style="list-style-type: none"> 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 	<p>8. HAZARD CLASSIFICATIONS</p> <ul style="list-style-type: none"> 8.1 49 CFR Category: Flammable liquid 8.2 49 CFR Class: 3 8.3 49 CFR Package Group: III 8.4 Marine Pollutant: Yes 8.5 NFPA Hazard Classification: <table border="0"> <tr> <td>Category</td> <td>Classification</td> </tr> <tr> <td>Health Hazard (Blue).....</td> <td>0</td> </tr> <tr> <td>Flammability (Red).....</td> <td>2</td> </tr> <tr> <td>Instability (Yellow).....</td> <td>0</td> </tr> </table> <ul style="list-style-type: none"> 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 	Category	Classification	Health Hazard (Blue).....	0	Flammability (Red).....	2	Instability (Yellow).....	0
Category	Classification								
Health Hazard (Blue).....	0								
Flammability (Red).....	2								
Instability (Yellow).....	0								
<p>6. WATER POLLUTION</p> <ul style="list-style-type: none"> 6.1 Aquatic Toxicity: Currently not available 6.2 Waterfowl Toxicity: Currently not available 6.3 Biological Oxygen Demand (BOD): 8%, 5 days 6.4 Food Chain Concentration Potential: None 6.5 GESAMP Hazard Profile: Not listed 	<p>9. PHYSICAL & CHEMICAL PROPERTIES</p> <ul style="list-style-type: none"> 9.1 Physical State at 15° C and 1 atm: Liquid 9.2 Molecular Weight: Not pertinent 9.3 Boiling Point at 1 atm: 310–395°F = 154–202°C = 428–475°K 9.4 Freezing Point: Not pertinent 9.5 Critical Temperature: Not pertinent 9.6 Critical Pressure: Not pertinent 9.7 Specific Gravity: 0.78 at 20°C (liquid) 9.8 Liquid Surface Tension: Currently not available 9.9 Liquid Water Interfacial Tension: Currently not available 9.10 Vapor (Gas) Specific Gravity: Not pertinent 9.11 Ratio of Specific Heats of Vapor (Gas): (est.) 1.030 9.12 Latent Heat of Vaporization: Currently not available 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: 0.13 psia 								

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	48.690	10	0.433	10	0.925	50	9.343
52	48.690	15	0.435	20	0.919	52	8.841
54	48.690	20	0.438	30	0.914	54	8.370
56	48.690	25	0.440	40	0.908	56	7.927
58	48.690	30	0.443	50	0.903	58	7.511
60	48.690	35	0.445	60	0.897	60	7.119
62	48.690	40	0.448	70	0.892	62	6.751
64	48.690	45	0.450	80	0.886	64	6.404
66	48.690	50	0.453	90	0.881	66	6.078
68	48.690	55	0.455	100	0.875	68	5.770
70	48.690	60	0.458	110	0.869	70	5.481
72	48.690	65	0.460	120	0.864	72	5.207
74	48.690	70	0.462	130	0.858	74	4.950
76	48.690	75	0.465	140	0.853	76	4.707
78	48.690	80	0.467	150	0.847	78	4.477
80	48.690	85	0.470	160	0.842	80	4.260
82	48.690	90	0.472	170	0.836	82	4.056
84	48.690	95	0.475	180	0.831	84	3.862
86	48.690	100	0.477	190	0.825	86	3.679
88	48.690	105	0.480	200	0.820	88	3.506
90	48.690			210	0.814	90	3.342
92	48.690			220	0.808	92	3.187
94	48.690			230	0.803	94	3.040
96	48.690			240	0.797	96	2.901
98	48.690			250	0.792	98	2.770
100	48.690			260	0.786	100	2.645

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	90	0.094		N		N
	N	100	0.124		O		O
	S	110	0.163		T		T
	O	120	0.211				P
	L	130	0.272		P		E
	U	140	0.347		E		R
	B	150	0.440		R		T
	L	160	0.553		T		I
	E	170	0.691		I		N
		180	0.856		N		E
		190	1.054		E		N
		200	1.290		N		T
		210	1.569		T		
		220	1.897				
		230	2.281				
		240	2.728				
		250	3.247				
		260	3.846				
		270	4.535				
		280	5.323				
		290	6.221				
		300	7.241				
		310	8.394				
		320	9.695				
		330	11.160				
		340	12.790				