

MINERAL SPIRITS

MNS

| CAUTIONARY RESPONSE INFORMATION | | | |
|--|---|-----------|--------------------|
| Common Synonyms | Watery liquid | Colorless | Gasoline-like odor |
| Naphtha Petroleum spirits 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. | | |

| 1. CORRECTIVE RESPONSE ACTIONS | 2. CHEMICAL DESIGNATIONS | 4. FIRE HAZARDS | 7. SHIPPING INFORMATION | | | | | | | | |
|---|---|---|---|----------|----------------|----------------------|---|--------------------|---|----------------------|---|
| Stop discharge Contain Collection Systems: Skim Chemical and Physical Treatment: Burn Clean shore line Salvage waterfowl | 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 | 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 | 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 | | | | | | | | |
| 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; LD ₅₀ = 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 A EGL: Not listed | 3. HEALTH HAZARDS | 5. CHEMICAL REACTIVITY | 8. HAZARD CLASSIFICATIONS | | | | | | | | |
| | | 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 | 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><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> | Category | Classification | Health Hazard (Blue) | 0 | Flammability (Red) | 2 | Instability (Yellow) | 0 |
| Category | Classification | | | | | | | | | | |
| Health Hazard (Blue) | 0 | | | | | | | | | | |
| Flammability (Red) | 2 | | | | | | | | | | |
| Instability (Yellow) | 0 | | | | | | | | | | |
| | | 6. WATER POLLUTION | 9. PHYSICAL & CHEMICAL PROPERTIES | | | | | | | | |
| | | 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 | 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 | | | | | |
| L | 130 | 0.272 | | P | | | P |
| U | 140 | 0.347 | | E | | | E |
| B | 150 | 0.440 | | R | | | R |
| L | 160 | 0.553 | | T | | | T |
| E | 170 | 0.691 | | I | | | I |
| | 180 | 0.856 | | N | | | N |
| | 190 | 1.054 | | E | | | E |
| | 200 | 1.290 | | N | | | N |
| | 210 | 1.569 | | E | | | E |
| | 220 | 1.897 | | T | | | T |
| | 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 | | | | | |