

NAPHTHA: VM & P

NVM

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
Light naphtha Painter's naphtha Petroleum solvent	Watery liquid	Colorless	Gasoline-like odor
Floats on water. Flammable, irritating vapor is produced.			
<p>Keep people away. Shut off ignition sources and call fire department. Stay upwind and use water spray to "knock down" vapor. Avoid contact with liquid and vapor. Notify local health and pollution control agencies. Protect water intakes.</p>			
Fire	<p>FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Extinguish with foam, dry chemical or carbon dioxide. Cool exposed containers with water.</p>		
Exposure	<p>CALL FOR MEDICAL AID.</p> <p>VAPOR Irritating to eyes, nose and throat. If inhaled, will cause dizziness or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>LIQUID Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. 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.</p>		
Water Pollution	<p>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

Stop discharge
Contain
Collection Systems: Skim
Chemical and Physical Treatment: Burn
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:** 3.2/1255
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

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Goggles or face shield (as for gasoline).
- 3.2 **Symptoms Following Exposure:** Vapor irritates respiratory tract, causes coughing and mild depression. Aspiration causes severe lung irritation with coughing, gagging, and rapidly developing pulmonary edema. Ingestion irritates mouth and stomach, causes nausea, vomiting, swelling of abdomen, cardiac arrhythmias.
- 3.3 **Treatment of Exposure:** INHALATION: maintain respiration if required. INGESTION: do NOT induce vomiting; observe for pneumonia; support if central nervous system depression occurs. ASPIRATION: enforce rest; administer oxygen; call a doctor. EYES: flush with water for at least 15 min. SKIN: wipe off, wash with soap and water.
- 3.4 **TLV-TWA:** 300 ppm
3.5 **TLV-STEL:** Not listed.
3.6 **TLV-Ceiling:** Not listed.
3.7 **Toxicity by Ingestion:** Grade 1; LD₅₀ = 5 to 15 g/kg
3.8 **Toxicity by Inhalation:** Currently not available.
3.9 **Chronic Toxicity:** None
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:** 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

4. FIRE HAZARDS

- 4.1 **Flash Point:** 20-55°F C.C.
4.2 **Flammable Limits in Air:** 0.9%-6.7%
4.3 **Fire Extinguishing Agents:** Foam, carbon dioxide, or dry chemical
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:** Vapor is heavier than air and may travel long distances to a source of ignition and flash back.
4.7 **Auto Ignition Temperature:** 450°F
4.8 **Electrical Hazards:** Class I, Group D
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

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:** Currently not available
6.2 **Waterfowl Toxicity:** Currently not available
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:** Petroleum hydrocarbons (90%) plus aromatic hydrocarbons such as benzene and toluene (10%)
7.2 **Storage Temperature:** Ambient
7.3 **Inert Atmosphere:** No requirement
7.4 **Venting:** Open (flame arrester) or pressure-vacuum
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:** I
8.4 **Marine Pollutant:** Yes
8.5 **NFPA Hazard Classification:**
- | Category | Classification |
|---------------------------|----------------|
| Health Hazard (Blue)..... | 1 |
| Flammability (Red)..... | 3 |
| 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:** 200-300°F = 93-149°C = 366-422°K
9.4 **Freezing Point:** Not pertinent
9.5 **Critical Temperature:** Not pertinent
9.6 **Critical Pressure:** Not pertinent
9.7 **Specific Gravity:** 0.75 at 20°C (liquid)
9.8 **Liquid Surface Tension:** 19-23 dynes/cm = 0.019-0.023 N/m at 20°C
9.9 **Liquid Water Interfacial Tension:** 39-51 dynes/cm = 0.039-0.051 N/m at 20°C.
9.10 **Vapor (Gas) Specific Gravity:** Currently not available
9.11 **Ratio of Specific Heats of Vapor (Gas):** (est.) 1.030
9.12 **Latent Heat of Vaporization:** 130-150 Btu/lb = 71-81 cal/g = 3.0-3.4 X 10⁵ J/kg
9.13 **Heat of Combustion:** (est.) -18,200 Btu/lb = -10,100 cal/g = -424 X 10⁵ 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:** 0.12 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	46.820	50	0.478	50	1.040	50	9.343
52	46.820	52	0.478	52	1.040	52	8.841
54	46.820	54	0.478	54	1.040	54	8.370
56	46.820	56	0.478	56	1.040	56	7.927
58	46.820	58	0.478	58	1.040	58	7.511
60	46.820	60	0.478	60	1.040	60	7.119
62	46.820	62	0.478	62	1.040	62	6.751
64	46.820	64	0.478	64	1.040	64	6.404
66	46.820	66	0.478	66	1.040	66	6.078
68	46.820	68	0.478	68	1.040	68	5.770
70	46.820	70	0.478	70	1.040	70	5.481
72	46.820	72	0.478	72	1.040	72	5.207
74	46.820	74	0.478	74	1.040	74	4.950
76	46.820	76	0.478	76	1.040	76	4.707
78	46.820	78	0.478	78	1.040	78	4.477
80	46.820	80	0.478	80	1.040	80	4.260
82	46.820	82	0.478	82	1.040	82	4.056
84	46.820	84	0.478	84	1.040	84	3.862
86	46.820	86	0.478	86	1.040	86	3.679
88	46.820	88	0.478	88	1.040	88	3.506
90	46.820	90	0.478	90	1.040	90	3.342
92	46.820	92	0.478	92	1.040	92	3.187
94	46.820	94	0.478	94	1.040	94	3.040
96	46.820	96	0.478	96	1.040	96	2.901
98	46.820	98	0.478	98	1.040	98	2.770
100	46.820	100	0.478	100	1.040	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		C
	N	100	0.124		O		U
	S	110	0.163		T		R
	O	120	0.211				R
	L	130	0.272		P		E
	U	140	0.347		E		N
	B	150	0.440		R		T
	L	160	0.553		T		L
	E	170	0.691		I		Y
		180	0.856		N		N
		190	1.054		E		O
		200	1.290		N		T
		210	1.569		T		A
		220	1.897				V
		230	2.281				A
		240	2.728				I
		250	3.247				L
		260	3.846				A
		270	4.535				B
		280	5.323				L
		290	6.221				E
		300	7.241				E
		310	8.394				
		320	9.695				
		330	11.160				
		340	12.790				