

ASPHALT BLENDING STOCKS: ROOFERS FLUX

ARF

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Asphaltum Asphaltum oil Dust-laying oil Fluxing oil Liquid asphalt Petroleum tailings Residual oil Road oil	Oily liquid (generally heated) Dark brown to black Tar odor May float or sink in water. Rubbery solid is produced when cooled.
<p style="color: red;">Stop discharge if possible. Call fire department. Avoid contact with liquid. Isolate and remove discharged material. Notify local health and pollution control agencies.</p>	
Fire	Combustible. Extinguish with water, dry chemical, foam, or carbon dioxide. Cool exposed containers with water.
Exposure	CALL FOR MEDICAL AID. LIQUID Will burn skin and eyes. Harmful if swallowed. 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 pollution control officials. Notify operators of nearby water intakes.

<p>1. CORRECTIVE RESPONSE ACTIONS Stop discharge Contain Collection Systems: Skim; Dredge Clean shore line Salvage waterfowl</p>	<p>2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: 33; Miscellaneous Hydrocarbon Mixtures 2.2 Formula: Not pertinent 2.3 IMO/UN Designation: 3.2/1999; 3.3/1999 2.4 DOT ID No.: 1999 2.5 CAS Registry No.: Currently not available 2.6 NAERG Guide No.: 130 2.7 Standard Industrial Trade Classification: 33540</p>
<p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Protective clothing; face and eye protection</p> <p>3.2 Symptoms Following Exposure: Inhalation of vapors from semi-solid materials causes moderate irritation of nasal and upper respiratory tract passages. Aspiration causes slow onset and low degree of chemical pneumonitis with clinical symptoms of lower respiratory tract irritation. Ingestion produces irritation of gastrointestinal tract.</p> <p>3.3 Treatment of Exposure: INHALATION OR ASPIRATION: treatment usually unnecessary. INGESTION: do NOT induce vomiting; do NOT lavage; administer 2-4 oz of olive oil and 1-2 oz of activated charcoal. EYES: wash with plenty of water. SKIN: wipe off material and wash with soap and water.</p> <p>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: None observed 3.10 Vapor (Gas) Irritant Characteristics: Vapors cause irritation of eyes or respiratory system if present in high concentrations. The effect is temporary. 3.11 Liquid or Solid Characteristics: Causes smarting of the skin and first-degree burns on short exposure; may cause secondary burns on long exposure. 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 AEG1: Not listed</p>	

4. FIRE HAZARDS

- 4.1 **Flash Point:** 300-550°F C.C.
- 4.2 **Flammable Limits in Air:** Not pertinent
- 4.3 **Fire Extinguishing Agents:** Water, foam, dry chemical or carbon dioxide
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Water or foam may cause frothing
- 4.5 **Special Hazards of Combustion Products:** Not pertinent
- 4.6 **Behavior in Fire:** Not pertinent
- 4.7 **Auto Ignition Temperature:** 400-700°F
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** Currently not available
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** Currently not available
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Currently not available
- 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:** Currently not available
- 6.5 **GESAMP Hazard Profile:** Not listed

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Currently not available
- 7.2 **Storage Temperature:** Elevated
- 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:** II
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue).....	0
Flammability (Red).....	1
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:** Not pertinent
- 9.4 **Freezing Point:** 20 to 110°F = -7 to 43°C = 266 to 316°K
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** (est.) 1.11 at 50°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):** Not pertinent
- 9.12 **Latent Heat of Vaporization:** Not pertinent
- 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:** 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
124	68.660	85	0.395	175	0.970	220	93.250
126	68.660	90	0.401	180	0.970	230	85.889
128	68.660	95	0.407	185	0.970	240	79.299
130	68.660	100	0.414	190	0.970	250	73.379
132	68.660	105	0.420	195	0.970	260	68.049
134	68.660	110	0.426	200	0.970	270	63.240
136	68.660	115	0.433	205	0.970	280	58.880
138	68.660	120	0.439	210	0.970	290	54.930
140	68.660	125	0.446	215	0.970	300	51.340
142	68.660	130	0.452	220	0.970	310	48.060
144	68.660	135	0.458	225	0.970	320	45.080
146	68.660	140	0.465	230	0.970	330	42.340
148	68.660	145	0.471	235	0.970	340	39.840
150	68.660	150	0.478	240	0.970	350	37.540
152	68.660			245	0.970	360	35.420
154	68.660			250	0.970	370	33.470
156	68.660			255	0.970	380	31.670
158	68.660			260	0.970	390	30.000
160	68.660						
162	68.660						
164	68.660						
166	68.660						
168	68.660						
170	68.660						

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	210	0.018		C		N
	N	220	0.026		U		O
	S	230	0.037		R		T
	O	240	0.053		R		P
	L	250	0.074		E		E
	U	260	0.103		N		R
	B	270	0.142		T		T
	L	280	0.193		L		I
	E	290	0.262		Y		N
		300	0.352				E
		310	0.470		N		N
		320	0.622		O		E
		330	0.817		T		N
		340	1.067				T
		350	1.384		A		
		360	1.783		V		
		370	2.284		A		
		380	2.909		I		
					L		
					A		
					B		
					L		
					A		
					B		
					L		
					E		