ASPHALT

ASP

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
Asphalt cements Asphaltic bitumen Bitumen Petroleum asphalt	Thick liquid (generally heated)	Dark brown to black	Tar odor

May float or sink in water. Rubbery solid is produced when cooled.

Stop discharge if possible.
Avoid contact with liquid.
Call fire department.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire	Combustible. Extinguish with water, dry chemical, foam, or carbon dioxide. Cool exposed containers with water.
Exposure	LIQUID Will burn skin and eyes. Flush affected areas with plenty of water.
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.

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Skim; Dredge
Clean shore line
Salvage waterfowl

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.: 8052-42-4
2.6 NAERG Guide No.: 130
2.7 Standard Industrial Trade Classification: 33540

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Protective clothing; face and eye protection when handling hot material.
3.2 Symptoms Following Exposure: Contact with skin may cause dermatitis. Inhalation of vapors may cause moderate irritation of nose and throat. Hot liquid burns skin.
3.3 Treatment of Exposure: Severe burns may result from contact with hot asphalt. If molten asphalt strikes the exposed skin, cool the skin immediately by quenching with cold water. A burn should be covered with a sterile dressing, and the patient should be taken immediately to a hospital.
3.4 TLV-TWA: 5 mg/m^3
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 1; LD_{50} 5 to 15 g/kg
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: None observed
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: 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 AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: 300°F-550°F O.C.
4.2 Flammable Limits in Air: Not pertinent
4.3 Fire Extinguishing Agents: Water spray, dry chemical, foam 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°F-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 Stoichometric 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: Each of the following is available in several grades: asphalt cement, rapid-curing liquid asphalt, medium-curing liquid asphalt, slow- curing liquid asphalt (road oil), emulsified asphalt, inverted asphaltic emulsion, oxidized (air-blown) asphalt.
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: III
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: Not pertinent
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: (est.) 1.00 at 20°C (liquid)
9.8 Liquid Surface Tension: Currently not available
9.9 Liquid Water Interfacial Tension: 70 dynes/cm = 0.07 N/m at 77°C
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: Varies

NOTES

ASPHALT

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
67	62.420	55	0.434	175	0.970	220	93.250
		60	0.437	180	0.970	230	85.889
		65	0.439	185	0.970	240	79.299
		70	0.442	190	0.970	250	73.379
		75	0.444	195	0.970	260	68.049
		80	0.446	200	0.970	270	63.240
		85	0.449	205	0.970	280	58.880
		90	0.451	210	0.970	290	54.930
		95	0.454	215	0.970	300	51.340
		100	0.456	220	0.970	310	48.060
		105	0.458	225	0.970	320	45.080
		110	0.461	230	0.970	330	42.340
		115	0.463	235	0.970	340	39.840
		120	0.466	240	0.970	350	37.540
		125	0.468	245	0.970	360	35.420
				250	0.970	370	33.470
				255	0.970	380	31.670
				260	0.970	390	30.000

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