Safety Data Sheet
Modified Asphalt

SECTION 1 IDENTIFICATION

Product Name: Modified Asphalt
Synonyms: Asphalt Cement, Bitumen, Petroleum Asphalt, Petroleum Bitumen, Asphaltum, AC-2.5, 5, 10, 20, 30, 40 (PBA) (F), AR-2000, 4000, 6000, 8000, AC-R (P, PBA) F, Roll Saturate, PG 58-22, PG 58-28, PG 58-34, PG 64-22, PG 64-28

SDS #: B1.2

Product Use: Road Surfacing
Restrictions on Use: Use only as directed

Manufacturer:
Sinclair Oil Company
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Salt Lake City, Utah 84130

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SDS Date of Preparation: January 9, 2015

SECTION 2: HAZARDS IDENTIFICATION

Classification: Not hazardous

Label Elements:
None required.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Asphalt	8052-42-4	99-100%
Non-hazardous Additive	Not applicable	0-4%

SECTION 4 EMERGENCY and FIRST AID PROCEDURES

Eye Contact: Immediately flush eyes with water for several minutes. Get medical attention if irritation persists.

Skin Contact: Wash thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Get medical attention if irritation develops or persists.

Inhalation: Remove to fresh air. Get medical attention if symptoms develop.

Ingestion: Do not induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconsciousness person. Get medical attention.

Most important symptoms/effects, acute and delayed: May cause mechanical eye irritation. Prolonged skin contact may cause irritation, drying and cracking of the skin. Excessive inhalation of dust may cause irritation of the nose, throat and upper respiratory tract irritation. Swallowing may gastric upset and nausea.

Indication of immediate medical attention and special treatment, if necessary: None required under normal conditions of use.

SECTION 5 FIRE and EXPLOSION HAZARD DATA

Suitable extinguishing media: Water fog, foam, carbon dioxide, halon or dry chemical. A solid stream of water may cause frothing and spread the fire.
Specific hazards arising from the chemical: The product will burn under fire conditions. Combustion will produce carbon and nitrogen oxides, aldehydes and other products of incomplete combustion.
Special protective equipment and precautions for fire-fighters: Firefighters should wear full emergency equipment and a NIOSH approved positive pressure self-contained breathing apparatus. Cool fire exposed container with water. Prevent runoff from entering streams and drinking water supply.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective equipment. Eliminate ignitions sources and ventilate the area. Wash thoroughly after handling.
Environmental hazards: Avoid release into the environment. Report spill as required by local and federal regulations.
Methods and materials for containment and cleaning up: Treat as an oil spill. Dike liquid spill with an inert absorbent and place into closable container for disposal. Scape up solid spills with mechanical means and place into a container for disposal. Prevent entry in storm sewers and waterways. Runoff can cause a fire or explosion hazard in sewers.

SECTION 7 HANDLING and STORAGE

Precautions for safe handling: Avoid contact with eyes, skin and clothing. Avoid breathing fumes and vapors. Wash thoroughly after handling. When product is heated to application temperatures, precautions should be taken to prevent thermal burns. Keep away from heat, sparks and all sources of ignition. Do not smoke in areas where the products is used or stored.

Conditions for safe storage, including any incompatibilities: Store in a cool area away from oxidizing agents. Protect containers from physical damage.

Empty containers retain product residues. Follow all SDS precautions in handling empty containers.

SECTION 8 EXPOSURE CONTROLS and PERSONAL PROTECTION

Exposure Guidelines:

INGREDIENTS	EXPOSURE LIMITS
Asphalt (as fume)	0.5 mg/m3 TWA ACGIH TLV (inhalable)
Non-hazardous Additive	None Established

Appropriate engineering controls: Good general room ventilation (equivalent to outdoors) should be adequate under normal conditions. If the recommended exposure limit is exceeded increased mechanical ventilation such as local exhaust may be required.

Respiratory protection: None needed under normal use conditions with adequate ventilation. If exposures are exceeded, use a NIOSH approved organic vapor respirator with dust/mist cartridges. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice.
Skin protection: Thermal gloves are recommended to avoid contact with hot material.
Eye protection: Wear chemical safety goggles if contact is possible.
Other: Wear protective clothing, impervious gloves and boots when handling hot material. Suitable washing facilities should be available in the work area.

SECTION 9 PHYSICAL and CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Black liquid or semi-solid
Odor: Faint hydrocarbon odor.

Odor threshold: Not available	**pH:** Not applicable
Melting point/Pourpoint: 80°F (32.2°C) (asphalt)	**Boiling Point:** 800-1400° F (426.6-760°C) (asphalt)
Flash point: 425°F (218.3°C)	**Evaporation rate:** Not available
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not determined	**UEL:** Not determined
Vapor pressure: <0.01 kPa @ 20°C	**Vapor density:** >1
Relative density: >1	**Solubility:** Insoluble in water
Partition coefficient: n-ctanol/water: Not available	**Auto-ignition temperature:** 905°F (485°C)
Decomposition temperature: Not available	**Viscosity:** Not applicable

SECTION 10 STABILITY and REACTIVITY

Reactivity: This product is not expected to be reactive.
Chemical stability: The product is stable.
Possibility of hazardous reactions: None known.
Conditions to avoid: Avoid sources of ignition.
Incompatible materials: Avoid strong oxidizing agents, acids, alkalies and water.
Hazardous decomposition products: Thermal decomposition may yield carbon and nitrogen oxides, aldehydes and other products of incomplete combustion.

SECTION 11 TOXICOLOGICAL INFORMATION

Health Hazards:

Inhalation: Inhalation of asphalt vapors may cause respiratory irritation, headache, fatigue, dizziness, nausea and nervousness. This product may contain a small amount of hydrogen sulfide which may accumulate in the headspace of containers during shipping. Overexposure to hydrogen sulfide may cause central nervous system effects, cardiac arrhythmia, pulmonary edema, unconsciousness and death.

Skin Contact: Prolonged skin contact may cause irritation and defatting of the skin. Contact with hot material may cause thermal burns.

Eye Contact: Vapors may cause irritation with redness, tearing and pain. Contact with hot material may cause thermal burns.

Ingestion: Swallowing large amounts may cause gastrointestinal irritation, nausea and diarrhea.

Chronic Effects of Overexposure: Nose-only inhalation exposure of rats to roofing to paving asphalt fume condensate over durations of 28-90 days resulted in NOAELS of 28.17-30 mg/m3. Effects on the respiratory system included increase lung weights and slight to moderate histopathologic changes in nasal cavities and lungs at the highest exposure levels. In dermal exposure to asphalts, toxicity was seen primarily at the application site, there was no evidence of systemic effects.

Mutagenicity: Asphalt was negative in the AMES test, an in vitro mammalian cell micronucleus test and in a transgenic animal mutagenicity assay.

Reproductive Toxicity: In a reproductive study, rats were administered 250 and 1000 mg/kg of petroleum distillates for at least 70 days prior to mating and during the 14 day mating cycle. The absence of adverse effects on in-life parameters (such as body weight, feed consumption, and clinical observations), a dosage level of 1000 mg/kg/day was considered to be the no-observed-adverse-effect level (NOAEL) for reproductive and systemic toxicity.

Carcinogenicity: None of the components are listed a carcinogen by IARC, NTP or OSHA. In a two year exposure of rats by nose-only inhalation up to 172.5 mg/m3 to a partially oxidized bitumen fume condensate from the headspace of hot storage tank containing semi-blown paving bitumen representative of workplace exposure did not result in excess tumors in any organ system. Undiluted asphalts of all types are not carcinogenic by dermal exposure and asphalts diluted in organic solvents are either non-carcinogenic or may exhibit weak dermal tumorigenic activity over a long duration of treatment. Skin painting studies do indicate that asphalt fumes generated at high temperatures under laboratory conditions produce skin tumors in mice. These studies in which asphalts were heated to higher than recommended temperatures with continued agitation were inconsistent with “real world” usage, making the results unrepresentative of the workplace to man.

Acute Toxicity Values:
Asphalt: Oral rat LD50>5000 mg/kg, Inhalation rat LC50 >94.4 mg/m3, Dermal rabbit LD50 >2000 mg/kg
Non-hazardous Additive: No toxicity data available

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:
Asphalt: 96 hr LL50 Oncorhynchus mykiss > 1000 mg/L, 48 hr EC50 daphnia magna 1000 mg/L, 72 hr EL50 Pseudokirchnerella subcapitata >1000 mg/L
Non-hazardous Additive: No data available

Persistence and degradability: Asphalt is not readily biodegradable.
Bioaccumulative potential: Bioaccumulation is expected to be low. .
Mobility in soil: At ambient temperatures the semisolid nature of asphalts and negligible vapor pressure and water solubility limit their distribution with the terrestrial or aquatic compartment to which they are released.
Other adverse effects: The constituent hydrocarbons making up asphalt are of such high molecular weight and low solubility that such substances would not be expected to cause acute or chronic toxicity to aquatic organisms.

SECTION 13: DISPOSAL INFORMATION

Waste Disposal Method: Dispose in accordance with all local, state and federal regulations.

SECTION 14: TRANSPORTATION INFORMATION

Ambient temperature asphalt is not regulated as a hazardous material/dangerous good.
The following applies to the transport of elevated temperature asphalt.

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	UN3257	Elevated Temperature Liquid n.o.s.	9	PG III	
TDG	UN3257	Elevated Temperature Liquid n.o.s.	9	PG III	
IMDG	UN3257	Elevated Temperature Liquid n.o.s.	9	PG III	
IATA	UN3257	Elevated Temperature Liquid n.o.s.	9	PG III	

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable.

Special precautions: None known.

SECTION 15: REGULATORY INFORMATION

Safety, health, and environmental regulations specific for the product in question.

CERCLA Hazardous Substances (Section 103)/RQ: This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

EPA SARA 311 Hazard Classification: Exposure Limit

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

CALIFORNIA PROPOSITION 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

WHMIS CLASSIFICATION: Not a controlled product.

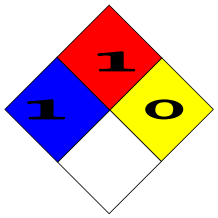
This product has been classified in accordance with the hazard criteria in the CPR and the MSDS contains all the information required by the CPR.

US EPA Toxic Substances Control Act: All of the components of this product are listed on the TSCA inventory.

SECTION 16: OTHER INFORMATION

SDS Revision History: Converted to GHS format – all Sections revised
Date of current revision: January 9, 2015
Date of previous revision: January 2007

National Fire Protection Association (U.S.A)



Health: 1
Flammability : 1
Instability: 0
Specific Hazard:

Disclaimer: This product material safety data sheet provides health and safety information. The product should be used in applications consistent with this product literature. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations.

This material safety data sheet is provided in good faith and meets the requirements of the hazardous communication provisions of SARA TITLE III and 29 CFR 1910.1200(g) of the OSHA regulations. The above information is based on review of available information Sinclair believes is reliable and is supplied for informational purposes only. Sinclair does not guarantee its completeness or accuracy. Since conditions of use are outside the control of Sinclair, Sinclair disclaims all warranties, express or implied, and any liability for damage or injury which results from the use of the above data. Nothing herein is intended to permit infringement of valid patents and licenses.