



BLACK MAC ROAD SEAL

**MATERIAL SAFETY DATA SHEET
& TECHNICAL DATA SHEET**

BLACK MAC ROAD SEAL MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Black Mac Road Seal

Manufacturer/Final product Composer: Asphatech Limited

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SECTION 1: DESCRIPTION

Road Seal can be labelled by many names, Liquid Bitumen, Liquid asphalt, Tars Liquid, Liquid Crack Filler, Road Quench, Liquid Oil Sand and Liquid Road Rejuvenating solution. Because of its special qualities it serves as a rejuvenating oil or quenching solution that becomes absorbed by the dried asphalt.

It can be blended to be solvent or water base and controlled to be either liquid or semi-solid and from slow to rapid drying and can contain additives such as aggregates (fillers).

This blend has a very short shelf life and may not be able to take cold storage hence it cannot be imported but made with local asphalt to match a particular surface.

SECTION 2: USES

Use to stabilize gravel roads intended for paving, can be sprayed on to aged asphalt roads that are pitted or faded or raveling showing tendencies of cracking due to weathering. It's purpose is to be sprayed on to recently paved or existing roads to form a seal around rocks and pitted or cracked asphalt surfaces up to 1/8 or 1/4 of an inch.

It fills pits and voids eliminating porosity almost immediately, keeping the sub layer free from top surface water which leads to depression, cracking and large pot hole which leads to failures. Roadways done like this are less pitted and more sealed against water penetration to the sub-layer. Road Seal will fill pits and voids leaving a rejuvenated waterproofed asphalt road.

SECTION 3: ABOUT ROADS

A newly paved road begins to age almost immediately due to weathering. The sun rays being drawn by the blackness of the asphalt followed by hot tires and heat from operating vehicles generally, the asphalt begins to lose it pliability becoming more brittle.

SECTION 4: GRAVEL ROADS

Dust mitigation can be put to rest, since you do not have to use water trucks creating messy roads and muddy pot holes

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SECTION 5: COST ADVANTAGES

Saving on water trucks, materials cannot be washed away, does not peel or stick to tires or shoes once fully cured. Untreated roadways develop depressions and larger cracks leading to pot holes as water constantly erode the sub layer surfaces and with constant fatigue, the costs are in the millions to replace the sub-layer in addition to repaving and down time to road closure.

BLACK MAC ROAD SEAL was installed on the roadway at the Diplomatic Centre in 2009 and for 5 years no potholes developed on the treated area.

SECTION 6: HAZARD IDENTIFICATION

Precautionary Statements

Prevention Inhalation: May cause irritation of respiratory tract.

Eye Contact: Contact with eyes may cause irritation.

Skin Contact: May cause irritation.

Ingestion: Ingestion may cause stomach discomfort.

General Advice

Storage: Keep container tightly closed

Disposal: Dispose of material/containers in accordance with the appropriate local regulations.

Hazard Not Otherwise Classified (HNOC): Not applicable

SECTION 7: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	WEIGHT %	TRADE SECRET
Limestone	1317-65-3	20-40	*
Asphalt	8052-42-4	20-40	*
Kaolin	1332-58-7	<10	*
Bentonite	1302-78-9	<10	*

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SECTION 8: FIRST AID MEASURES

Description of necessary first aid measures:

Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.
Skin contact	Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions, see a physician.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Ingestion	Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most Important Symptoms/Effects, Acute and Delayed

Most Important Symptoms/Effects: No information available

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Notes to Physician Treat Symptomatically: May cause sensitization by skin contact.

SECTION 9: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Carbon Dioxide (CO₂). Dry Chemical Foam. Water Fog.

Unsuitable Extinguishing Media:

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical:

No information available

Explosion Data:

Sensitivity to Mechanical Impact: None

Sensitivity to Static Discharge: None

Protective Equipment and Precautions for Firefighters:

As in any fire, wear self-contained breathing apparatus

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SECTION 10: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures:

Personal Precautions: Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Environmental Precautions:

Environmental Precautions: See Section 12 for additional Ecological Information

Methods and Materials for Containment and Cleaning Up:

Methods for Containment: Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up: Soak up with inert absorbent material. Pick up and transfer to properly labelled containers. Clean contaminated surface thoroughly.

SECTION 11: HANDLING & STORAGE

Precautions for Safe Handling

Handling: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Wear personal protective equipment. Avoid breathing vapors or mists. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling.

Conditions for Safe Storage, Including Any Incompatibilities

Storage: Keep container tightly closed

Incompatible Products: Strong oxidizing agents. Acids.

SECTION 12: EXPOSURE CONTROLS / PERSONAL PROTECTION

CHEMICAL NAME	ACGIH TLV	OSHA PEL	NIOSH IDLH
Limestone 1317-65-3		TWA: 15 mg/m ³ TWA: 5 mg/m ³ (vacated) TWA: 15 mg/m ³ (vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³ respirable dust TWA 10 mg/m ³ total dust
Asphalt 8052-42-4	TWA: 0.5 mg/m ³ benzene soluble aerosol fume, inhalable fraction		Ceiling: 5 mg/m ³ fume 15 min.
Kaolin 1332-58-7	Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician if necessary.	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable Fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA 5 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Bentonite 1302-78-9	TWA 1 mg/m ³ respirable fraction		

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Appropriate Engineering Controls

Engineering Measures: Showers, Eyewash Stations, Ventilation Systems

Individual Protection Measures, such as Personal Protective Equipment

Eye/Face Protection: If splashes are likely to occur, wear: Safety glasses with side shields.

Skin and Body Protection: Impervious gloves

Respiratory Protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

SECTION 13: PHYSICAL & CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State: Liquid

Appearance: Black

Odor: Asphaltic Odor

Threshold: No Information Available

PROPERTY	VALUES	REMARKS/METHOD
pH	No data available	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	100° C	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air Upper flammability limit Lower flammability limit	No data available No data available	
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Specific Density	1.24 @ 77 F	None known
Water Solubility	Easily dispersible	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known
Flammable Properties	Not flammable	
Explosive Properties	No data available	
Oxidizing Properties	No data available	

Other Information: VOC Content Less than 15 g/l

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SECTION 14: STABILITY & REACTIVITY

Information on Basic Physical and Chemical Properties

Physical State: Liquid

Appearance: Black

Odor: Asphaltic Odor

Threshold: No Information Available

Reactivity	No data available
Chemical Stability	Stable under recommended storage conditions
Possibility of Hazardous Reactions	None under normal processing
Hazardous Polymerization	Hazardous polymerization does not occur
Conditions to Avoid	None known
Incompatible Materials	Strong oxidizing agents. Acids.
Hazardous Decomposition Products	Carbon Monoxide (CO), Carbon Dioxide (CO ²), Hydrogen Sulfide, Nitrogen Dioxide

SECTION 15: TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information:

Inhalation: May cause irritation of respiratory tract.

Eye Contact: Contact with eyes may cause irritation.

Skin Contact: May cause irritation.

Ingestion: Ingestion may cause stomach discomfort.

Symptoms Related to the Physical, Chemical, and Toxicological Characteristics

Symptoms: No information available.

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Delayed and Immediate Effects and also Chronic Effects from Short and Long Term Exposure

Sensitization	No information available
Mutagenic Effects	No information available
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen. The IARC, NTP, and OSHA do not list asphalt as a carcinogen. In general, the oxidation of polycyclic aromatic hydrocarbons destroys their carcinogenic potential. Petroleum asphalt, shale oil asphalts, and coal tars show distinct variation in their relative carcinogenicity for experimental animals.

Chemical Name	ACGIH	IARC	NTP	OSHA
Asphalt	A3	Group 2B	Reasonably Anticipated	X

ACGIH: (American Conference of Governmental Industrial Hygienists)

A3 – Animal Carcinogen

IRAC: (International Agency for Research on Cancer)

Group 2B – Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

Reasonably Anticipated – Reasonably Anticipated to be a Human Carcinogen

OSHA: (Occupational Safety & Health Administration)

X – Present

Reproductive Toxicity: No information available.

STOT - Single Exposure: No information available.

STOT – Repeated Exposure: No information available.

Aspiration Hazard: No information available.

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SECTION 16: ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Bentonite 1302-78-9		LC50 96 h: 8.0-19.0 g/L (Salmo gairdneri) LC50 96 h: = 19000 mg/L static (Oncorhynchus mykiss)		

Persistence and Degradability: No information available.

Chemical Name	Log Pow
Asphalt	6..006

Other Adverse Effects: No information available.

SECTION 17: DISPOSAL CONSIDERATIONS

Waste Disposal Methods: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging: Do not re-use empty containers.