

Polymer Modified Asphalt Cement

SECTION 1. IDENTIFICATION

| | |
|---|--|
| Product Identifier | Polymer Modified Asphalt Cement |
| Other Means of Identification | PG 52-34, PG 52-37, PG 52-40, PG 58-22, PG 58-28, PG 58-31, PG 58-34, PG 58-37, PG 58-40, PG 64-22, PG 64-28, PG 64-34, PG 64-37, PG 64-40, PG 70-22, PG 70-28, PG 70-31, PG 70-34, PG 70-37, PG 76-22, PG 76-28, PG 76-34, PG 82-28, EverLife Flex PMA, EverLife LP PMA, Stellarflex FR, STYLINK Concentrates, SMPG; (E)(V)(H)(S)(Jnr), (P)(R)(X)(J)(Foam), LST, BBUM-1 |
| Other Identification | Suffix (AS)(HRD) indicates anti-strip agent added; Suffix (EVO)(WMA)(T) indicates warm mix agent added |
| Recommended Use | Polymerized Asphalt for recycling asphalt, Polymerized Asphalt for paving purposes. |
| Restrictions on Use | None known. |
| Manufacturer/Supplier Identifier | McAsphalt Industries Ltd, 8800 Sheppard Ave East, Toronto, Ontario, M1B 5R4, 416-281-8181 |
| Emergency Phone No. | CANUTEC, (613) 996 - 6666, 24 hours McAsphalt Industries Ltd., 1 - (800) - 268 - 4238, 8AM-5PM Monday to Friday |

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015).

Classification

Acute toxicity (Inhalation) - Category 4; Carcinogenicity - Category 2

Label Elements



Warning

Harmful if swallowed, in contact with skin or if inhaled.

Avoid breathing dust/fume/gas/mist/vapours/spray.

IF exposed or concerned: Get medical advice or attention.

Other Hazards

Dark Black, Semi-solid with characteristic asphaltic odour or "rotten egg" odour if H₂S present, but odour is an unreliable warning, since it may deaden the sense of smell.

Can cause thermal burns, exposures require specialized first-aid and medical follow-up.

Prolonged or repeated skin contact can cause drying of the skin which may produce irritation or dermatitis.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | % | Other Identifiers | Other Names |
|------------------------------|-----------|----------|-------------------|-------------|
| Asphalt (Bitumen) | 8052-42-4 | 94 - 100 | | Asphalt |
| Styrene-butadiene copolymers | 9003-55-8 | 1 - 10 | | |

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| | | | | |
|---------|-----------|-----|--|--|
| Sulphur | 7704-34-9 | 0-1 | | |
|---------|-----------|-----|--|--|

Notes

Antistripping additive added in quantities < 1% when indicated. Heated product may evolve vapours irritating to the nose, throat and lungs. See section 8 for further information.

During storage or transit of hot asphalt, hydrogen sulphide may be generated. The composition and percentages listed will vary based on the product type. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Loosen tight clothing such as collar, tie, belt or waist band. Get medical attention immediately.

Skin Contact

For hot asphalt splash, cool affected body part with water immersion or shower. Do not attempt to remove asphalt from the skin. Once the bitumen has cooled, it will do no further harm and in fact provide a sterile covering over a burnt area. As healing takes place, the bitumen plaque, the bitumen plaque will detach itself, usually after a few days. For skin soiling without underlying burn, cleanse with mineral oil followed by soap and water. Use olive oil in vicinity of eyes.

Eye Contact

If a contact lens is present, DO NOT delay flushing or attempt to remove the lens. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open.

Ingestion

Rinse mouth with water. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting.

Most Important Symptoms and Effects, Acute and Delayed

Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe over exposure; coma and death. At higher concentrations (above 10 ppm), hydrogen sulphide is extremely toxic by inhalation, may cause respiratory-tract irritation and respiratory failure, coma and death. Pulmonary edema can occur up to 24 hours after hydrogen sulphide exposure. While hydrogen sulphide emits a strong odour of rotten eggs, detection by smell is not sufficient as a warning property for exposure to this substance, as it may deaden the sense of smell quickly.

Repeated or prolonged exposure can irritate the skin.

The vapour also irritates the eyes. Symptoms include sore, red eyes, and tearing.

Immediate Medical Attention and Special Treatment

Special Instructions

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Medical Conditions Aggravated by Exposure

Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated skin exposure can produce local skin destruction or dermatitis see toxicological information (Section 11).

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

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Unsuitable Extinguishing Media

None known. Do not spray water onto tank, vessel containing liquid asphalt as water reacts violently with product at elevated temperatures; risk of steam explosion.

Specific Hazards Arising from the Product

Flammability of the product: Will burn on prolonged exposure to flame or high temperature.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Low fire hazard. This material must be heated before ignition will occur. Hydrogen sulphide may be released if the product is overheated and may accumulate in the tank headspace or any other confined space.

Carbon oxides (CO, CO₂), smoke and irritating vapours as products of incomplete combustion.

Special Protective Equipment and Precautions for Fire-fighters

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

Fire-fighters should enter area wearing specialized protective equipment. (Bunker Gear will not provide adequate protection.) chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

No action shall be taken involving any personal risk or without suitable training. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and Materials for Containment and Cleaning Up

Small spills or leaks: stop or reduce leak if safe to do so. Ventilate the area to prevent the gas from accumulating, especially in confined spaces. Contain and soak up spill with absorbent that does not react with spilled product. Do NOT use combustible materials such as sawdust. Cover the spill surface with the appropriate type of foam to reduce the release of vapour. Place used absorbent into suitable, covered, labelled containers for disposal. Large spills or leaks: dike spilled product to prevent runoff. Knock down gas with fog or fine water spray. Do not direct water at spill or source. Dike and recover contaminated water for appropriate disposal. Let product solidify. Do not return spilled product to its original container. Store recovered product in suitable containers that are: review Section 13 (Disposal Considerations) of this safety data sheet. Contact emergency services and manufacturer/supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

During storage, transit and cooling of asphalt, solvent vapour and hydrogen sulphide may accumulate in enclosed spaces such as tank cars. Open tank car hatches with caution. Maintain same precautions when gauging and sampling. Do not cut or weld near full/empty containers. Put on appropriate personal protective equipment (see Section 8). Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. This product is non-combustible. If heated, irritating vapours may be formed. Do not use in areas without adequate ventilation. Wash hands thoroughly after handling. Avoid contact with skin, eyes and clothing. Avoid breathing fumes, gas, or vapours. Use only with adequate ventilation. Wash thoroughly after handling and wear appropriate personal protective equipment. Harmful concentrations of hydrogen sulfide (H₂S) gas can accumulate in low-lying areas as well as the vapour space of storage and bulk transport compartments. Stay upwind and vent open hatches before unloading.

Conditions for Safe Storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental

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contamination.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

| Chemical Name | ACGIH TLV® | | OSHA PEL | | AIHA WEEL | |
|------------------------------|-------------------------------------|-------|-----------------|---------|-----------|-----|
| | TWA | STEL | TWA | Ceiling | 8-hr TWA | TWA |
| Asphalt (Bitumen) | 0.5 mg/m ³ (l) A4 BEI | | Not established | | | |
| Sulphur | 1 ppm | 5 ppm | | | | |
| Styrene-butadiene copolymers | 3 mg/m ³ (R) | | | | | |

ACGIH® = American Conference of Governmental Industrial Hygienists. TWA = Time-Weighted Average. STEL = Short-term Exposure Limit. OSHA = US Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. R = Respirable particulate matter.

Appropriate Engineering Controls

General ventilation is usually adequate. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual Protection Measures

Eye/Face Protection

If a risk assessment indicates that it is necessary to avoid exposure to liquid splashes, mists or dusts, then safety eyewear complying with an approved standard should be used.

Skin Protection

Wear chemical protective clothing e.g. gloves, long sleeves, boots.

If a risk assessment indicates it is necessary, chemical-resistant, imperious gloves complying with an approved standard should be worn at all times when handling chemical products. Suitable materials are: nitrile rubber nitrile rubber. Leather or Aluminize Gloves.

Respiratory Protection

If a risk assessment indicates that it is necessary (i.e. H₂S concentration is above 10ppm exposure limit), use a properly fitted, air-purifying or air-fed respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour filter cartridge or canister with a dust, fume or mist filter (R, or P series) may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

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|--|---|
| Appearance | Dark black Semi-solid. |
| Odour | Characteristic asphaltic odour or "rotten egg" odour if H ₂ S present, but odour is an unreliable warning, since it may deaden the sense of smell. |
| Odour Threshold | Not available |
| pH | Not available |
| Melting Point/Freezing Point | Not available (melting); Not available (freezing) |
| Initial Boiling Point/Range | > 300 °C (572 °F) |
| Flash Point | > 290 °C (554 °F) (open cup) |
| Evaporation Rate | Not available |
| Flammability (solid, gas) | Not applicable |
| Upper/Lower Flammability or Explosive Limit | Not available (upper); Not available (lower) |
| Vapour Pressure | Not available |

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| Vapour Density (air = 1) | Not available |
| Relative Density (water = 1) | 1.027 at 15 °C |
| Solubility | Insoluble in water; Soluble in all proportions in common organic solvents. |
| Partition Coefficient, n-Octanol/Water (Log Kow) | Not available |
| Auto-ignition Temperature | > 400 °C (752 °F) |
| Decomposition Temperature | Not available |
| Viscosity | Not available (kinematic) |
| Other Information | |
| Physical State | Liquid |
| Bulk Density | Not available |

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Contact between heated Asphalt and water can cause a violent eruption.

Conditions to Avoid

Water, moisture or humidity.

Incompatible Materials

Reactive with oxidizing agents
Water.

Hazardous Decomposition Products

May release CO_x, NO_x, SO_x, PO_x, H₂S, hydrocarbons, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

See toxicological information (Section 11).

Acute Toxicity

| Chemical Name | LC50 | LD50 (oral) | LD50 (dermal) |
|-------------------|---|--------------------|-----------------------|
| Asphalt (Bitumen) | > 94.4 mg/m ³ (rat) | > 5000 mg/kg (rat) | > 2000 mg/kg (rabbit) |
| Sulphur | ~ 444 ppm (rat) (4-hour exposure) (gas) | | |

Skin Corrosion/Irritation

May cause mild irritation to skin. Signs/symptoms may include localized redness, swelling, and itching. Hot liquid product may cause serious thermal burns on direct contact. Asphalt fumes can increase susceptibility to sunburn.

Serious Eye Damage/Irritation

May cause mild irritation to eyes. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hot liquid product may cause serious thermal burns on direct contact. Hydrogen sulphide may cause eye irritation at 1 - 20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H₂S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

At higher concentrations of H₂S (above 10 ppm), hydrogen sulphide is extremely toxic by inhalation, may cause

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respiratory-tract irritation, nose and throat irritation, depression of the central nervous system, respiratory failure, unconsciousness and/or death. Pulmonary edema can occur up to 24 hours after hydrogen sulphide exposure. While hydrogen sulphide emits a strong odour of rotten eggs, detection by smell is not sufficient as a warning property for exposure to this substance, as it may deaden the sense of smell quickly.

Ingestion

May cause severe irritation or burns to the mouth, throat and stomach.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Prolonged or repeated contact may dry skin and cause irritation. This product contains small quantities of Polycyclic aromatic hydrocarbons. Prolonged contact with these compounds has been associated with the induction of skin and lung tumours, anemia, disorders of the liver, bone marrow and lymphoid tissues. Long term inhalation of Benzene or Xylene vapours can result in bone marrow abnormalities with damage to blood forming tissues and may cause anemia and other blood cell abnormalities. Immunodepressive effects have also been reported. Hydrogen sulphide may reduce lung function; cause neurological effects such as headaches, nausea, depression and personality changes; eye and mucos membrane irritation: damage to cardiovascular system.

Effect(s) from long-term exposure are similar to effects described for short-term exposure.

Respiratory and/or Skin Sensitization

Not available.

Carcinogenicity

| Chemical Name | IARC | ACGIH® | NTP | OSHA |
|-------------------|----------|--------|-----|------|
| Asphalt (Bitumen) | Group 2B | A4 | | |

IARC: The International Agency for Research on Cancer (IARC) has determined that occupational exposures to oxide asphalt and their emissions during roofing operations are "probably carcinogenic to humans" (Group A). IARC concluded that occupational exposures to hard asphalts and their emissions during mastic asphalt work are "possibly carcinogenic to humans" (Group 2B). IARC concluded that occupational exposure to straight-run asphalts and their emissions during paving operations are "possibly carcinogenic to humans" (Group 2B).

An IARC working group has concluded that occupational exposures to straight-run bitumens and their emissions during road paving are 'possibly carcinogenic to humans' (Group 2B).

Reproductive Toxicity

Development of Offspring

Not available.

No known significant effects or critical hazards.

Sexual Function and Fertility

Not available.

No known significant effects or critical hazards.

Effects on or via Lactation

Not known to cause effects on or via lactation.

Germ Cell Mutagenicity

Not available.

No known significant effects or critical hazards.

No information was located for: STOT (Specific Target Organ Toxicity) - Single Exposure, Interactive Effects

SECTION 12. ECOLOGICAL INFORMATION

No known significant effects or critical hazards.

Ecotoxicity

Not available.

Persistence and Degradability

Not available.

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Bioaccumulative Potential

No information was located.

Mobility in Soil

Studies are not available.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal Methods**

The generation of waste should be avoided or minimized where ever possible. Significant quantities of waste product residue should not be disposed of via the foul sewer but processed in a suitable effluent treatment plan. Dispose of surplus and non-recyclable and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and sections *: EXPOSURE CONTROL/PERSONAL PROTECTION for additional handling information and protection of employees.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations.

| Regulation | UN No. | Proper Shipping Name | Transport Hazard Class(es) | Packing Group |
|------------|--------|--|----------------------------|---------------|
| US DOT | 3257 | Elevated Temperature Liquid n.o.s (Polymer Modified Asphalt) | 9 | III |

Special Precautions Please note: For US Shipments Only: ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 c and below its flash point, 9, UN3257, PGIII PG* : Packing group

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION**Safety, Health and Environmental Regulations****Canada****Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)**

All ingredients are listed on the DSL or are not required to be listed.

USA**Toxic Substances Control Act (TSCA) Section 8(b)**

All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.

Additional USA Regulatory Lists

HCS Classification : Not regulated.

Europe inventory

Not determined

SECTION 16. OTHER INFORMATION

NFPA Rating Health - 2 Flammability - 1 Instability - 0

SDS Prepared By EPC & Risk Management Department

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Revision Indicators September 20 2019 Product Identifiers Updated
Key to Abbreviations ACGIH® = American Conference of Governmental Industrial Hygienists
AIHA® = AIHA® Guideline Foundation HSDB® = Hazardous Substances Data Bank
IARC = International Agency for Research on Cancer
NFPA = National Fire Protection Association NIOSH = National Institute for Occupational Safety and Health
OSHA = US Occupational Safety and Health Administration
RTECS® = Registry of Toxic Effects of Chemical Substances

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).
HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer To the best of our knowledge, the information herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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