

# Polymer Modified Asphalt Cement

## SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Polymer Modified Asphalt Cement
<b>Other Means of Identification</b>	(i) PGAC – PG 52-34P (EX)(R), 52H-34, 52H-34P (EX), 52-37P (R), 52-40P (T)(HRD), 58-28P, 58-34P (EX)(R)(T)(HRD), 58-37P (R), 58-40P (R)(T)(HRD), 58H-28, 58H-34, 64V-22, 64E-22, 64-22P, 64-28P (EX)(R)(T)(HRD), 64-34P (EX)(R)(T)(HRD), 64-37P (R), 70-28P (EX)(R)(T)(HRD), 70-31P, 70-34P (R)(T)(HRD), 76-28P (R)(T)(HRD), 76-34P, EverLife Flex PMA, EverLife LP PMA, Stellarflex FR
<b>Other Identification</b>	Suffix (AS) indicates anti-strip agent added; Suffix (EVO) (WMA) indicates warm mix agent added
<b>Recommended Use</b>	Polymerized Asphalt for recycling asphalt, Polymerized Asphalt for paving purposes.
<b>Restrictions on Use</b>	None known.
<b>Manufacturer/Supplier Identifier</b>	McAsphalt Industries Ltd, 8800 Sheppard Ave East, Toronto, Ontario, M1B 5R4
<b>Emergency Phone No.</b>	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; Skin irritation - Category 3; Eye irritation - Category 2B; 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 skin irritation occurs: Get medical advice or attention.

If eye irritation persists: Get medical advice/attention.

### Other Hazards

Dark Black, Semi-solid with characteristic asphaltic odour or "rotten egg" odour if H<sub>2</sub>S 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) fume	8052-42-4	94 - 100		Asphalt

Styrene-butadiene copolymers	9003-55-8	1 - 10		
SULFUR	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.

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. During storage or transit of hot asphalt, hydrogen sulphide may be generated.

## 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 removal of asphalt but split longitudinally if circumferential to avoid tourniquet effect. No attempt should be made to remove firmly adhering bitumen 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

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

#### **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, CO<sub>2</sub>), smoke and irritating vapours as products of incomplete combustion.

#### **Special Protective Equipment and Precautions for Fire-fighters**

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). Avoid contact with eyes, skin and clothing. Store and use away from heat, sparks, open flames or any other ignition source. Use explosion-proof electrical (ventilating, lighting, and material handling) equipment. Use non-sparking tools. 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. Use only indirectly heated oil-jacketed equipment.

### **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 unlabelled 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) fume	0.5 mg/m <sup>3</sup> (l) A4 BEI		Not established			
SULFUR	1 ppm	5 ppm				
Styrene-butadiene copolymers	3 mg/m <sup>3</sup> (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

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots. In case of an emergency (e.g. an uncontrolled release).

Chemical-resistant, imperious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. nitrile rubber. Leather or Aluminize Gloves.

#### Respiratory Protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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

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

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

### Hazardous Decomposition Products

May release COx, NOx, SOx, POx, 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) fume		> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)
SULFUR	~ 444 ppm (rat) (4-hour exposure) (gas)		

### Skin Corrosion/Irritation

Not available.

Slightly irritating to the skin. Contact with hot material can cause thermal burns.

### Serious Eye Damage/Irritation

Irritating 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, sever swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

Slightly irritating to the eyes.

### STOT (Specific Target Organ Toxicity) - Single Exposure

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### Inhalation

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 overexposure; 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.

### Ingestion

No known significant effects or critical hazards.

### 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. Exposure to Naphtha may damage the blood-forming organs resulting in fatigue and anemia (RBC), decreased resistance to infection, and/or excessive bruising and bleeding (platelet effect). Peripheral nerve damage may be evidenced by impairment of motor function (incoordination, unsteady walk, or muscle weakness in the extremities, and/or loss of sensation in the arms and legs). Auditory system effects may include temporary hearing loss and/or ringing in the ears. 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 mucous 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) fume	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.

### 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. 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.

## SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

**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)

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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

**Phone No.**                        1 (416) 281 - 8181

**Date of Preparation**            January 22, 2018

**Date of Last Revision**        August 07, 2018

**Revision Indicators**         August 7 2018 Addition of EverLife LP PMA

**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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