Asphalt Cements - Performance Graded (PG)

SECTION 1. IDENTIFICATION

Product Identifier	Asphalt Cements - Performance Graded (PG)
Other Means of Identification	PG 46-34, PG 46-37, PG 46-40, PG 52-28, 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; (E)(V)(H)(S)(Jnr), (P)(R)(X)(J)(Foam)
Other Identification	Suffix (AS)(HRD) indicates anti-strip agent added; Suffixes (EVO)(WMA)(T) indicates warm mix agent added
Recommended Use	These products are primarily used for paving applications. However, there are a number of other industrial applications.
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.
For hot asphalt splash, cool affected body part with water immersion or shower. Do not attempt to remove asphalt from the skin. Natural separation will occur in about 48-72 hours.
IF exposed or concerned: Get medical advice or attention.

Other Hazards

At higher concentrations of H2S (above 10 ppm), inhalation may become extremely toxic and may cause respiratory-tract irritation and respiratory failure, coma 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.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Asphalt (Bitumen)	8052-42-4	99-100		Asphalt

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. 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. The composition and percentages listed will vary based on the product type.

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.

First-aid Comments

If exposed or concerned, get medical advice or attention. Some of the first-aid procedures recommended here require advanced first-aid training.

Most Important Symptoms and Effects, Acute and Delayed

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.

If on skin: repeated or prolonged exposure can irritate the skin.

Can cause thermal burns.

If in eyes: may cause mild irritation. 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 (Section11).

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agents compatible with product and suitable for surrounding fire.

Unsuitable Extinguishing Media

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

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 ventillation. Wear apporpriate respirator when ventillation is inadequate. Put on apporpriate 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 absorbents. Contain spill using noncombustible material such as vermiculite, earth or sand. Do NOT use combustible materials such as sawdust. Cover the spill surface with the appropriate type of foam to reduce the release of vapour. Large spills or leaks: dike spilled product to prevent runoff. 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. 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 guaging and sampling. Do not cut or weld near full/empty containers. 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. 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. Avoid breathing vapour or mist. Use only with adequate ventilation. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire of explosion. Use only indirectly heated oil-jacketed equipment. 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.

Conditions for Safe Storage

Store in an area that is: temperature-controlled, dry, an approved, fire-resistant area, secure and separate from work areas. Engineering controls are usually required in the storage area to protect against the product's hazard(s). Review

Section 8 (Exposure Controls/Personal Protection) for information. Avoid bulk storage indoors. Protect product from contact with water, including humidity. Prevent rainwater and ground water from reaching storage area.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Asphalt (Bitumen)	0.5 mg/m3 (I) A4 BEI		Not established			

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. TWA = Time-Weighted Average. STEL = Short-term Exposure Limit.

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.

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

Appearance	Dark black Semi-solid.
Odour	Characteristic asphaltic odour or "rotten egg" odour if H2S 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	Not available
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
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	Not available
Solubility	Insoluble in water; Soluble in all proportions in common organic solvents.

Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
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

Stable under normal storage conditions.

Possibility of Hazardous Reactions

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

Conditions to Avoid

Under normal conditions of storage and use, hazardous polymerisation will not occur. Will violently react to water/moisture i.e., steam expansion.

Incompatible Materials

Reactive with oxidizing agents.

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)	> 94.4 mg/m3 (rat)	> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)

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, sever swelling, tearing, sensitivity to light and the appearence 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 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.

Skin Absorption

May cause Thermal burns from heat skin to darken.

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 turmours, 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 amd mucos membrane irritation: damage to cardiovascular system.
No known significant effects or critical hazards.

Respiratory and/or Skin Sensitization

Skin irritation, the symptoms may include redness and itching and swelling it may irritate the respiratory system.

Carcinogenicity

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

The International Agency for Research on Canacer (IARC) has determined that occupational exposures to oxide asphalt amd 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

Environmental affects: No known significant effects or critical hazards. Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable under Federal and Provincial regulations. The information given is based on data available for the material, the components of the material, and similar materials.

Ecotoxicity

Studies were not located.

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

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. Recycle and reuse product, if possible. The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user. Treat waste in an approved waste disposal facility. Do not reuse empty containers. Dispose of or recycle empty containers through an approved waste management facility.

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	Performance Graded Liquid Asphalt (Elevated Temperature Liquid, n.o.s., at or above 100 c and below its flash point)	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

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.

Europe inventory

Not determined

SECTION 16. OTHER INFORMATION

NFPA Rating	**Health - Not assigned. 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	April 12, 2019
Revision Indicators	April 12 2018 Other Means of Identification adjusted to meet new Provincial nomenclature requirements April 26 2018 PG 82-28 added to Other Means of Identification April 12 2019 Other Means of Identification 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.