

SAFETY DATA SHEET

Prepared on: 10/21/2016



SECTION 1: IDENTIFICATION

PRODUCT NAME: Polymer Modified Asphalt Cement (PGAC)

SYNONYMS: Liquid Asphalt, Modified Binder, Performance Graded Binder, PG 64-28Y, PG 64-34Y, PG 70-28Y, PG 70-34Y, PG 4XY, PG 64-28XY, PG 70-28XY, PG 52-40Y, PG 58-40Y, PG 58H-28, PG 58V-28, PG 58E-28, PG 58H-34, PG 58V-34, PG 58E-34, PG 58-28XV

PRODUCT USE: Polymer modified asphalt cement is used as binder in paving applications.

RESTRICTIONS ON USE: Not available.

MANUFACTURER/SUPPLIER: Yellowline Asphalt Products Ltd.
70 Hobson Road Hamilton, ON L8H 0A5

PHONE NUMBER: 416-433-7569

EMERGENCY NUMBER: 911

DATE OF PREPARATION OF SDS: November 17, 2016

SECTION 2: HAZARD IDENTIFICATION

CLASSIFICATION Identified hazardous by OSHA/WHMIS criteria.

LABEL ELEMENTS

HAZARD PICTOGRAM(S):



SIGNAL WORD: Warning

HAZARD STATEMENTS: Suspected of causing cancer.
Causes skin irritation.
Causes eye irritation.
Thermal burns can result from contact with hot product.

PRECAUTIONARY STATEMENTS

PREVENTION:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing, eye protection, and face protection.
RESPONSE:	Seek medical attention immediately in case of accidents.
STORAGE:	Store locked up.
DISPOSAL:	Use shovels to break down hardened pieces of asphalt. Dispose according to federal, provincial, and local regulations.
HAZARDS NOT OTHERWISE CLASSIFIED:	Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	WEIGHT %
Asphalt	8052-42-4	100
Hydrogen sulfide	7783-06-03	<0.1
Polycyclic aromatic hydrocarbons	130498-29-2	<0.1
Polymers	Various	<15
Fully reacted organic/inorganic salts	Various	<3

SECTION 4: FIRST-AID MEASURES

INHALATION:	Remove person to fresh air. Apply artificial respiration if breathing has stopped. Otherwise, monitor the affected individual's breathing for signs of disruption or congestion. Seek medical attention immediately.
	Acute and delayed symptoms and effects: Fumes generated from heated product can cause irritation of nose and throat, nausea, vomiting, coughing, headache, and restlessness. Traces of hydrogen sulfide released at elevated temperatures can cause weight loss, irregular heartbeats, headache, and sleep disturbances. Hydrogen sulfide at high

concentrations may cause permanent brain and nervous system damage.

SKIN CONTACT:

Cool affected area with large amounts of iced or cold water. Remove contaminated clothing only if the affected piece is non-adherent to skin. Do not use solvents for removing asphalt. Baby oil may be used gently to remove asphalt stains if the affected area is less than half an inch in diameter. Seek medical attention immediately.

Acute and delayed symptoms and effects: Irritation due to unprotected contact includes redness, itching, swelling, dermatitis, and dry skin. Thermal burns are resulted from contact with hot product.

EYE CONTACT:

Flush with large amounts of tepid water for at least 15 minutes. Seek medical attention immediately.

Acute and delayed symptoms and effects: Irritation due to fumes includes redness, itching, swelling, disrupted vision, and tearing. Direct contact with hot product can cause serious thermal burns.

INGESTION:

Seek medical attention immediately. Never feed the affected individual any medication unless specified by a physician. Do not induce vomiting unless instructed by a medical expert.

Acute and delayed symptoms and effects: May result in nausea, indigestion, vomiting, and abdominal pain. Ingesting hot liquid product can cause severe damage to internal organs.

NOTE TO PHYSICIAN:

Symptoms of overexposure may not appear immediately. For inhalation of hydrogen sulfide consider oxygen supply. Peeling or removing adhering asphalt from skin should be avoided while treating burns. Once asphalt has cooled, it will form a sterile coating over the burn, and detach itself while healing.

GENERAL ADVICE:

Review the SDS prior to using the product. Seek medical attention immediately in case of accidents.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	For small fires, appropriate extinguishing media such as carbon dioxide (CO ₂), dry chemical, and foam or water fog can be used. For large fires use water spray, fog or regular foam.
UNSUITABLE EXTINGUISHING MEDIA:	Do not use straight streams. Water may spread the flames uncontrollably.
SPECIFIC HAZARDS ARISING FROM THE CHEMICAL:	Non-flammable or combustible based on WHMIS and OSHA classification. Sensitive to static discharge at temperatures above the flash point.
COMBUSTION PRODUCTS:	Carbon monoxide (CO), carbon dioxide (CO ₂), hydrogen sulfide (H ₂ S), and other oxides of sulfur.
SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS:	Full firefighting turn-out gear (Bunker gear) and respiratory protection (SCBA). If a tank, railway tank car, or truck is involved in fire, the area is to be evacuated within half a mile radius. The source of fuel should be shut off only when it is safe to do so. Auto-ignition, explosion, and pressure build up can be prevented by cooling containment vessels.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:	Personal protective equipment required as describe in Section 8.
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EMERGENCY PROCEDURES

ENVIRONMENTAL PRECAUTIONS:	Implement control and clean-up procedures based on size of the spill and potential hazards on the environment.
METHODS FOR CONTAINMENT:	When appropriate, contain liquid asphalt with sand, gravel, soil, or absorbent materials inside a properly labeled "Spill Kit". It is recommended to build berms surrounding mixing and storage tanks to contain large-scale spills. Stop any leak or source of spill only when it is safe to do so. Do not allow the spill to enter drains, sewers, ditches, or waterways.

METHODS FOR CLEAN-UP: Use shovels to break down hardened pieces of asphalt. Dispose according to federal, provincial, and local regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Handle with care to avoid eye contact, skin contact, ingestion, and excessive inhalation. Ground containers and pouring equipment as necessary when transferring liquid asphalt. Do not heat samples unless the lid/hatch of the container has been loosened to allow for sufficient ventilation. Handle and open containers with caution. Do not weld or drill onto the containers and keep away from sources of ignition. Wash hands after coming in contact with the materials. Always wear the necessary PPE as illustrated in Section 8. It is the employer’s responsibility to ensure exposure limits are maintained below the regulatory limits.

CONDITIONS FOR SAFE STORAGE: Store in appropriate containers or tanks which meet the regulatory standards. The contents should be kept away from sources of ignition, open flames, and strong oxidizers. Dry, cool, and well-ventilated storage conditions are suitable. Hydrogen sulfide may accumulate in tanks at elevated temperatures. Vapours generated are hazardous and should be treated with caution. Face shields may be necessary during stages of loading, unloading, and sampling for protection against pressurized fumes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES:

COMPONENT	ACGIH	OSHA
Asphalt: Benzene soluble fraction (CAS 8052-42-4)	0.5 mg/m ³ (TWA) A4;BEI	N/A
Hydrogen sulfide (CAS 7783-06-04)	1 ppm (TWA) 5 ppm (STEL)	20 ppm (C) 50 ppm (Peak)
Polycyclic aromatic hydrocarbons: Benzene soluble fraction (CAS 130498-29-2)	0.2 mg/m ³ (TWA)	0.2 mg/m ³ (TWA)
Polymers	N/A	N/A
Reacted salts	N/A	N/A

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limits

C: Ceiling

ENGINEERING CONTROLS:

Establish adequate ventilation during heating or other fume generating activities to maintain exposure below the specified limits.

PERSONAL PROTECTIVE EQUIPMENT (PPE):



EYE PROTECTION:

Wear safety glasses.

SKIN PROTECTION:

Wear suitable protective clothing.

HAND PROTECTION:

Wear thermal resistance gloves able to withstand heat up to 300°C (572°F). It is recommended to wear nitril, butyl rubber, or neoprene gloves underneath for extra protection.

FOOT PROTECTION:

Wear CSA approved steel-toed safety boots when transferring materials over 1 gal.

RESPIATORY PROTECTION:

No respiratory protection is required as long as exposure limits are controlled. If ventilation is not sufficient, wear appropriate NIOSH/MSHA approved air purifying respirator, or SCBA.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Black viscous material

ODOUR: Petroleum odour

ODOUR THRESHOLD: Not available

PHYSICAL STATE: Liquid or semi-solid

pH (IN WATER): Not available

MELTING POINT / FREEZING POINT: 31°C

INITIAL BOILING POINT / BOILING RANGE: 228°C

FLASH POINT: 243°C

EVAPORATION RATE:	Not available
FLAMMABILITY (SOLID, GAS):	Not applicable
LOWER FLAMMABLE / EXPLOSIVE LIMIT:	Not available
UPPER FLAMMABLE / EXPLOSIVE LIMIT:	Not available
VAPOUR PRESSURE:	Not available
VAPOUR DENSITY:	Not available
RELATIVE DENSITY:	1.020-1.045 (@21.1°C)
SOLUBILITY:	Insoluble in water
PARTITIONS COEFFICIENT:	Not available
AUTO-IGNITION TEMPERATURE:	Not available
DECOMPOSITION TEMPERATURE:	Not available
VISCOSITY:	< 3 Pa.s @ 135°C

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:	Non-reactive under ordinary conditions.
CHEMICAL STABILITY:	Stable under ordinary storage conditions.
POSSIBILITY OF HAZARDOUS REACTIONS:	Contact with water at high temperatures may cause violent eruptions.
CONDITIONS TO AVOID:	Excessive heating or contact with sources of ignition.
INCOMPATIBLE MATERIALS:	Acids, bases, oxidizing agents, metals, and metal salts.
HAZARDOUS DECOMPOSITION PRODUCTS:	Elevated temperatures may cause release of toxic gases such as CO, CO ₂ , and H ₂ S.

SECTION 11: TOXICOLOGICAL INFORMATION

LIKELY ROUTES OF EXPOSURE: Eye contact. Skin contact. Inhalation. Ingestion.

TARGET ORGANS: Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Liver. Kidneys. Nervous system.

ACUTE EXPOSURE

ACUTE EFFECTS:

INHALATION: May cause irritation of nose and throat, nausea, vomiting, coughing, headache, and restlessness. Signs/symptoms include coughing, shortness of breath, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Traces of hydrogen sulfide released at elevated temperatures can cause weight loss, irregular heartbeats, headache, and sleep disturbances. Hydrogen sulfide at high concentrations may cause permanent brain and nervous system damage.

EYE: Irritation due to fumes. Signs/symptoms include redness, itching, swelling, disrupted vision, and tearing. Direct contact with hot product can cause serious thermal burns.

SKIN: Irritation due to unprotected contact. Signs/symptoms include redness, itching, swelling, dermatitis, and dry skin. Thermal burns are resulted from contact with hot product.

INGESTION: May result in nausea, indigestion, vomiting, and abdominal pain. Ingesting hot liquid product can cause severe damage to internal organs.

CHRONIC EXPOSURE

CHRONIC EFFECTS: Prolonged contact may dry skin and cause irritation. Overexposure to small quantities of polycyclic aromatic hydrocarbons may cause induction of skin and lung tumors, anemia, and disorders of the liver, bone marrow and lymphoid Tissues.

COMPONENT TOXICITY:

COMPONENT	CAS NUMBER	LD ₅₀ ORAL	LD ₅₀ DERMAL	LC ₅₀
Asphalt	8052-42-4	N/A	N/A	N/A
Hydrogen sulfide (H ₂ S)	7783-06-4	N/A	N/A	444ppm (Rat)
Polycyclic aromatic hydrocarbons	130498-29-2	N/A	N/A	N/A
Polymers	Various	>3000 mg/kg	N/A	1.7 g/m ³
Reacted salts	Various	N/A	N/A	N/A

COMPONENT CARCINOGENICITY:

COMPONENT	ACGIH	IARC	NTP	OSHA	PROP 65
Asphalt	A4	Group 2B	Not listed	OSHA Carcinogen	Listed
Hydrogen sulfide (H ₂ S)	Not listed	Not listed	Not listed	Not listed	Not listed
Polycyclic aromatic hydrocarbons	A2	Group 2A	Not listed	OSHA Carcinogen	Listed
Polymers	Not listed	Not listed	Not listed	Not listed	Not listed
Reacted salts	Not listed	Not listed	Not listed	Not listed	Not listed

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:	Not available
PERSISTENCE AND DEGRADABILITY:	Not available
BIOACCUMULATIVE POTENTIAL:	Not available
MOBILITY IN SOIL:	Not available
OTHER ADVERSE EFFECTS:	Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal of waste materials should be performed in compliance with federal, provincial, and local regulations.

SECTION 14: TRANSPORT INFORMATION

INTERNATIONAL REGULATIONS

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code not applicable for product as supplied.

NATIONAL REGULATIONS

Regulations corresponding to TDG do not apply when transported at temperatures below 100°C.

UN NUMBER: UN3257

UN PROPER SHIPPING NAME: Elevated Temperature Liquid, N.O.S. (Asphalt)

TRANSPORT HAZARD CLASS(ES): 9

PACKING GROUP: III

SECTION 15: REGULATORY INFORMATION

CHEMICAL INVENTORIES

CANADA – DOMESTIC SUBSTANCE LIST (DSL) The components of this product are listed in inventory.

US - TOXIC SUBSTANCE CONTROL ACT (TSCA) The components of this product are listed in inventory.

FEDERAL REGULATIONS This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and contains all the information required.

SECTION 16: OTHER INFORMATION

DATE OF PREPARATION: November 17, 2016

REVISION DATE:

VERSION: 1

DISCLAIMER: The information in the SDS was written based on the best knowledge and experience available at the time of preparation. The contents of this document are subject to change without prior notice.