

Section 1. Identification

Product name : Polymer Modified Asphalt Cement

Synonyms : PMA Concentrate, PG 76-22, PG 82-22, PG 76-22 PMA, PG 76-22 HP

Relevant identified uses of the substance or mixture and uses advised against

Product use : Road paving

Manufacturer : Blacklidge Emulsions, Inc.
12251 Bernard Parkway, Suite 200
Gulfport, MS 39503
(228) 863-3878

Emergency telephone number : CHEMTREC – (800) 424-9300

Section 2. Hazards Identification


OSHA/HCS Status : This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Classification :

Acute toxicity – Inhalation (Dusts/Mists)	Category 4
Skin corrosion/Irritation	Category 2
Serious eye damage/Eye irritation	Category 2A
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

GHS Label Elements

Hazard pictograms :



Signal Word : Warning

Hazard Statements :

- May be severely irritating to the skin and eyes.
- May be irritating to the respiratory tract.
- May be harmful if swallowed or absorbed through the skin.
- Fumes from heated material may be irritating and hazardous.
- May cause allergic skin reaction.
- Overexposure may cause CNS Depression.
- Aspiration hazard if swallowed – can enter lungs and cause damage.
- Potential reproductive hazard.
- Contains material which can cause cancer.
- See *Toxicological Information* (Section 11) for more information.

Hazards Not Otherwise Classified (HNOC) :

- Hot liquid may cause thermal burns.
- May release hydrogen sulfide gas.

Precautionary Statements

Prevention

- : Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Do not breathe vapor.
- Use only outdoors or in a well-ventilated area.
- Wear personal protective equipment as required.
- Wear protective gloves.
- Wear eye or face protection.
- Wash hands and any possibly exposed skin thoroughly after handling.

Response

- : Get medical attention if you feel unwell.
- IF exposed or concerned: Get medical attention.
- IF ON SKIN: Wash with plenty of soap and water.
- If skin irritation occurs: Get medical attention.
- Take off contaminated clothing and wash before reuse.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical attention.

Storage

- : Not applicable

Disposal

- : Dispose of contents and container in accordance with all applicable federal, state and local waste disposal regulations.

Section 3. Composition/Information on Ingredients

Substance/Mixture : Mixture

Composition Information :

Name	CAS No.	Concentration %
Petroleum Asphalt	8052 – 42 – 4	78 – 96
SBS Copolymer Additive	Mixture	4 – 20
Anti-stripping Additive	Mixture	0 – 1
Sulfur Compounds	Mixture	0 – 3
Hydrogen Sulfide	7783 – 06 – 4	<1

*Values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time.

Polymer Modified Asphalt Cement is asphalt mixed with varying concentrations of vacuum residuum and SBS copolymer additive. Composition varies depending on source of crude and specification of final product. May contain minor amounts of sulfur, nitrogen and oxygen containing compounds. Polycyclic aromatic hydrocarbons (3-7 ring), such as benzo(a)pyrene, are present in trace concentrations (<0.1%).

Different asphalt grades may also contain an anti-strip.

Asphalt products can contain hydrogen sulfide, because it is normally occurring in crude oil from which asphalt is derived. Hydrogen sulfide can also be present as a by-product of asphalt processing.

Section 4. First Aid Measures**Description of Necessary First Aid Measures**

- Eye Contact** : Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. GET IMMEDIATE MEDICAL ATTENTION.
- Skin Contact** : For Hot material, immerse or flush skin with large amounts of the coldest water possible. Cover with clean cotton sheeting or gauze. Remove clothing if not sticking to the skin. DO NOT try to remove solidified material from the skin as the damaged flesh can be easily torn. DO NOT try to dissolve with solvents or thinners. GET IMMEDIATE MEDICAL ATTENTION.
- For cold material, immediately wash skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists.
- Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Discard contaminated leather goods.
- Inhalation** : Remove to fresh air. Apply artificial respiration if not breathing. GET IMMEDIATE MEDICAL ATTENTION.
- Ingestion** : If victim is conscious, give liquids. Do not induce vomiting. If spontaneous vomiting occurs, hold the victim's head lower than their hips to prevent aspiration. GET MEDICAL ATTENTION.

Potential Acute Health Effects

- Eyes** : Severely irritating. Exposure to vapors, fumes or mists may cause irritation. Direct contact may cause pain, tears, burns, sensitivity to light, swelling and possible corneal damage.
- Contact with heated material may cause thermal burns, destruction of eye tissue and possible permanent injury or blindness.
- Skin** : Severely irritating. Contact may cause reddening, pain, itching, inflammation and possible tissue damage. Defatting agent.
- Contains a component(s) that may cause allergic skin reactions in some individuals. May cause photo irritation in some individuals.
- Contact with heated material may cause thermal burns.
- Inhalation** : Breathing of the mists, vapors or fumes may irritate the nose, throat and lungs. Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure. Fumes or vapors from the heated material may be irritating to the respiratory tract.
- May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

Components have been shown to be weak cardiac sensitizers which can result in cardiac arrhythmia and ventricular fibrillation.

May release hydrogen sulfide gas, which is highly toxic. Hydrogen sulfide can cause respiratory paralysis and death, depending on the concentration and duration of exposure. Do not rely on ability to smell vapors since odor fatigue rapidly occurs.

Ingestion

: May cause severe irritation with intense burning of the mouth and throat followed by abdominal pain and distress, nausea, vomiting and diarrhea. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.

Aspiration into lungs may cause chemical pneumonia and lung damage.

Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation" (see Inhalation section).

Other specific symptoms of exposure are listed under *Toxicological Information* (Section 11).

Potential Health Effects from Over-exposure

Eyes : Irritation and conjunctivitis.

Skin : Absorption from prolonged or repeated skin contact may cause systemic toxicity.

Inhalation : Irritation of the nose and throat, nausea, vomiting, diarrhea, abdominal pain and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue), irregular heartbeats, pulmonary edema, weakness and convulsions.

Ingestion : Systemic damage including target organ effects listed under *Toxicological Information* (Section 11).

Indication of immediate medical attention and special treatment needed, if necessary

Note to Physician : Gastric lavage may be indicated if ingested.

Anemia may require the usual supportive measures. Medical evaluation of acute overexposure should include hematological determinations until stable. In severe acute and chronic poisoning, both renal and hepatic damage may occur and should be anticipated in such cases. Respiratory and pulmonary problems may require special attention. After severe acute symptoms have been alleviated, it may be advisable to consider periodic monitoring of the patient until such time as the likelihood of other adverse effects can be discounted.

Hydrogen sulfide is primarily a respiratory toxin inhibiting the cytochrome oxidase system; it is probably more potent than HCN. The lifetime of a sulfide in oxygenated blood is short and sulfmethemoglobin is rapidly detoxified by red blood cells and the liver. If nitrites have been used for detoxification, check methemoglobin levels. Follow fluid and electrolyte balance carefully since metabolic acidosis may occur from increased anaerobic metabolism. Watch for pulmonary edema and aspiration pneumonia during convalescence.

For skin contact with hot asphalt, do not peel the solidified material from the skin, or use solvents such as gasoline, kerosene, or paint thinner to remove. Cooled asphalt may adhere so tenaciously to the skin that attempted removal may cause severe distress to the patient. Covering the affected area using commercially available

preparations containing the emulsifying agent polysorbate (Tween 80), or an antibiotic cream in a polysorbate base is the most effective method to dissolve the solidified asphalt. Asphalt can also be slowly dissolved with vegetable oil, baby oil or mineral oil.

If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

Section 5. Fire-fighting Measures

Extinguishing Media

Flash Point, COC : >450°F

Suitable Extinguishing Media : Water spray, dry chemical, alcohol foam, all-purpose AFFF or carbon dioxide

Unsuitable Extinguishing Media : Do not use straight streams. Water contact can cause violent eruption of hot asphalt. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from As far a distance as possible. Avoid excessive water spray application. Keep run-off water out of sewers and water sources.

Specific Hazards arising from The Chemical : This product is not a combustible liquid per the OSHA Hazard Communication Standard, but will ignite and burn at temperatures exceeding the flash point.

Hazardous Combustion Products : Combustion may produce COx, NOx, Sox, reactive hydrocarbons, hydrogen sulfide and irritating vapors.

Special Protective Equipment and Precautions for Fire Fighters : Material will burn in a fire. Exercise extreme care when using water spray on asphalt tank fires. When water is mixed with hot asphalt, steam may rapidly develop resulting in violent asphalt foaming and possible tank eruptions from increased pressure.

Evacuate area and fight fire from a safe distance.

Use water spray to cool adjacent structures and to protect personnel. Shut off source of flow if possible. Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Firefighters must wear MSHA/NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Emergency Procedures : Eliminate or shut off ignition sources and keep ignition sources out of the area. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind. Isolate for ½ mile in all directions if tank, rail car or tank truck is involved in fire. Evacuate area endangered by release as required. (See Exposure Control/Personal Protection – Section 8).

Environmental Precautions : If product is released to the environment, take immediate steps to stop and contain release. Caution should be exercised regarding personnel safety and exposure to the released product. Notify local authorities and the National Response Center, if required.

Methods and Materials for Containment : Contain liquid with sand or soil.

Methods and Materials for Containment and Cleaning Up

Spill or Leak Procedure : Keep unnecessary people away. Isolate area for at least 50 – 100 meters (160 – 330 feet) to preserve public safety. For large spills, consider initial evacuation for at least 300 meters (1000 feet).

Keep ignition sources out of area and shut off all ignition sources. For spills on land, dike ahead of spill to contain. Scrape up spilled material for disposal. To reclaim, mix with gravel, dirt or rock. For spills on water, contain as much as possible with booms and begin recovery as soon as possible. If material sinks or becomes dispersed, consult with local, state and regional authorities for approved clean up procedures. Stop leak when safe to do so.

See Exposure Controls/Personal Protection (Section 8).

Section 7. Handling and Storage

Safe Handling Precautions : Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards.

Do not heat to temperatures above the boiling point of water (approximately 212°F or 100°C).

Do not eat, drink or smoke in areas of use or storage.

Storage Conditions : Store in tightly closed containers in a cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles. Avoid contact with strong oxidizers. Empty containers may contain product residue. Do not reuse without adequate precautions.

Hydrogen sulfide can build up in the head space of storage vessels containing any type of asphalt product. Use appropriate respiratory protection to prevent exposure. See Exposure Controls/Personal Protection (Section 8).

When entering a storage vessel that has previously contained any type of asphalt product, it is recommended that the atmosphere be monitored for the presence of hydrogen sulfide. See Exposure Controls/Personal Protection (Section 8) for exposure limits.

Section 8. Exposure Controls/Personal Protection

Name	Exposure Limits / Health Hazards
Petroleum Asphalt	Asphalt Fumes: 0.5 mg/m ³ 8-Hour TWA (ACGIH)
Hydrogen Sulfide	20 ppm Ceiling (OSHA) 10 ppm 8-Hour TWA (ACGIH)

Note The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA’s 1989 air contaminants standard in its SDS’s, even though certain of those exposure limits were vacated in 1992.

Appropriate Engineering Controls : Ventilation and other forms of engineering controls are the preferred means for controlling exposures.

Consult NIOSH (National Institute for Occupations Safety and Health) for more information on guidelines for engineering controls for asphalt pavers.

Personal Protective Equipment

Eye Protection : Remove contact lenses and wear chemical safety glasses and/or goggles or where contact with product may occur.

Skin Protection : Use appropriate chemical protective gloves when handling at room temperature. Use gloves that protect against thermal burns when handling at high temperatures. At a minimum, wear long-sleeved cotton shirt buttoned at the collar and full-length cotton pants. Synthetic fibers tend to melt and adhere to the skin when heated. Do not fold back or roll up cuffs. Additional protection may be necessary to prevent skin contact including the use of apron, arm covers, face shield or boots.

Strict hygiene practices are essential.

Inhalation : Inhalation of mists and vapors should be avoided at all times.
A NIOSH/MSHA approved air purifying respirator with an appropriate cartridge, canister, and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. The use of air purifying respirators is not recommended where hydrogen sulfide levels may exceed exposure limits. Protection provided by the purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure limits are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Ventilation : Provide adequate general and local ventilation:
(1) to maintain airborne chemical concentrations below applicable exposure limits,
(2) to prevent accumulation of flammable vapors and formation of explosive atmospheres, and
(3) to prevent formation of oxygen deficient atmospheres, especially in confined spaces.

Note: This product may release gases or vapors that can displace oxygen in enclosed areas.

Section 9. Physical and Chemical Properties

Physical State : Liquid
 Appearance : Black/Brown solid or semi-solid
 Odor : Musty petroleum odor

Property	Values (Method)
Boiling Point	: >700°F
Specific Gravity	: 0.95 – 1.10
Density	: 7.9 – 8.9 lbs/gal
Melting Point	: >120°F
Flash Point	: 450 – 660°F
% Volatile	: Not available
Vapor Pressure	: Negligible @ 77°F
Vapor Density	: Not available
Bulk Density	: Not available
Solubility in Water	: Not available
Octanol/Water Partition	: Not available
Volatile Organic	: Not available
Pour Point	: Not available
pH Value	: Neutral
Viscosity	: Not available
Evaporation Rate	: Not available
Molecular Formula	: Not available
Molecular Weight	: Not available
Chemical Family	: Asphalt
Odor Threshold	: Not available

Section 10. Stability and Reactivity

Reactivity : The product is non-reactive under normal conditions of use.
 Stability : The material is stable at 70°F, 760 mm pressure.
 Hazardous Polymerization : Will not occur.
 Conditions to Avoid : Excessive heat, sources of ignition and open flame.
 Incompatible Materials : Strong oxidizers such as nitrates, chlorates, and peroxides.
 Hazardous Decomposition Products : Combustion produces toxic oxides of sulfur, carbon monoxide, sulfur dioxide, hydrogen sulfide and hydrocarbons.

Section 11. Toxicological Information

	Acute Oral Toxicity LD50	Acute Dermal Toxicity LD50
Asphalt 8052 – 42 – 4	>5,000 mg/kg (Rat)	>2,000 mg/kg (Rat)

- Inhalation** : Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.
- Eyes** : May cause eye irritation. Contact with hot material may cause thermal burns.
- Skin** : May cause skin irritation. May cause an allergic skin reaction. Contact with hot material may cause thermal burns.
- Ingestion** : If swallowed at ambient temperature, no significant adverse effects are effected. Ingestion of large amounts may cause gastrointestinal blockage. Ingesting hot material may cause thermal burns to the mouth, throat, and/or stomach.
- Reproductive Effects** : This product may contain components which may cause adverse reproductive and/or development effects.
- Pregnant women may be at an increased risk from exposure. Consumption of alcoholic beverages may enhance toxic effects.
- Sensitization to Material** : Pre-existing medical conditions which may be aggravated by exposure include disorders of the kidney, liver, skin, blood, respiratory and nervous system.
- Toxicological Data** : Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: kidney, liver, skin, spleen, thymus, lymph nodes, blood elements, testes, bone marrow, respiratory and nervous systems.
- Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: anemia, pallor, fatigue, oil acne, melanosis, loss of appetite, and anxiety.
- Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as solvent or painter's syndrome).
- Irritating and toxic hydrogen sulfide gas may be found in confined vapor space. WARNING – "rotten egg" odor of hydrogen sulfide is not a reliable indicator for warning of exposure since odor fatigue readily occurs. Odor sensation lost immediately at concentrations greater than 150 ppm. Avoid exposure to hydrogen sulfide gasses. Hydrogen sulfide causes rapid death due to metabolic asphyxiation. Case reports suggest that toxic amounts can enter the body through a punctured eardrum, even while wearing some types of respiratory protective equipment.**
- Carcinogenicity** : This material contains petroleum asphalt. IARC has determined that there is sufficient evidence for the carcinogenicity of extracts of steam-refined bitumens (asphalts), air-refined bitumen and pooled mixtures of steam and air-refined bitumen in experimental animals. IARC has determined that there is inadequate evidence that bitumen alone is carcinogenic to humans.
- Asphalt fumes from heated material may cause eye, respiratory tract and skin irritation, as well as nausea and headaches. These fumes may cause dermatitis and acne-like lesions as well as mild keratosis on prolonged and repeated exposure. Condensed asphalt fumes, which have been generated under laboratory conditions and which are chemically different from those found during typical asphalt operations, have been reported to cause bacterial mutations as well as cause skin tumors in animals following repeated, lifetime skin contact without washing. However,

inhalation of asphalt fumes by laboratory animals, during controlled studies, did not produce lung cancer. Additionally, human studies to date have not established a link between asphalt fume exposure and lung cancer.

This material may contain trace amounts of polynuclear aromatic hydrocarbons (PAHs) as naturally occurring constituents of crude oils from which asphalt is derived. Repeated or prolonged exposure to some PAHs has been associated with effects to the liver, kidneys, immune system and skin with warty growths, skin burns, pigmentation of the bare skin and cornification of the surface layers. They have also been associated with anemia, photosensitivity, leukoplakia (white patches on the tongue, cheek or gums), edema of the eyelids, conjunctival hyperemia, lacrimation, photophobia, headache, loss of appetite, vital powers and strength, cough, bronchitis and nausea. Some PAHs have been shown to be carcinogenic after prolonged or repeated skin contact in laboratory animals.

This material may contain untreated or mildly treated mineral oils. This material may contain solvent extract oils. IARC has determined that there is sufficient evidence for the carcinogenicity of these oils in experimental animals.

Some of the components of this product are hazardous in the dust form. These components include crystalline silica, which is a suspected human carcinogen. However, because of the physical nature of this product, dust generation is not expected, so the health effects associated with dusts are unlikely to occur.

Section 12. Ecological Information

Ecotoxicity effects : If spilled, hot product and/or the coating action of the oil components could harm plant life. This product does not concentrate or accumulate in the food chain. This product is not expected to cause any acute or chronic toxicity to aquatic organisms due to its extremely low water solubility.

Section 13. Disposal Considerations

Disposal Methods : This product, as supplied, when discarded or disposed of, may be hazardous waste according to Federal regulations (40 CFR 261). Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine, at the time of disposal, whether the material is a hazardous waste subject to RCRA.

The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

Section 14. Transport Information

DOT (49 CFR 172.101)

Transport Information : This material when transported via US Commerce would be regulated by DOT Regulations. This material must not be transported when heated at or above its flash point.

UN Proper Shipping Name : Elevated Temperature Liquid, N.O.S.

UN/Identification Number : UN 3257

Transport Hazard Class(es) : 9

Packing Group : III

TDG (Canada)

UN Proper Shipping Name : Elevated Temperature Liquid, N.O.S.

UN/Identification Number : UN 3257

Transport Hazard Class(es) : 9

Packing Group : III

Section 15. Regulatory Information

US Federal Regulatory Information

United States Inventory (TSCA 8b) : The product and/or its components are listed on the US Toxic Substance Control Act (TSCA) Chemical Inventory.

OSHA Hazard Communication Standard : This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

State Regulations : WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

EPA Superfund Amendment & Reauthorization Act (SARA)

Section 302 EPCRA Extremely Hazardous Substances (EHS)

Product Component	CAS No.	Weight %	TPQ, lb
Hydrogen Sulfide	7783 – 06 – 4	<1	500

Section 304 CERCLA Hazardous Substances

Product Component	CAS No.	Weight %	RQ, lb.
Hydrogen Sulfide	7783 – 06 – 4	<1	100

Section 311/312 Hazard Categorization

Acute	Chronic	Fire	Pressure	Reactive
X	X			

Section 313 EPCRA Toxic Substances

Product Component	CAS No.	Weight %
Hydrogen Sulfide	7783 – 06 – 4	<1

Key: RQ = Reportable Quantity
 TPQ = Threshold Planning Quantity (EHS)

NFPA Title Ratings

Health	Flammability	Reactivity	Special Hazards
1	1	1	0

HMIS Ratings

Health	Flammability	Reactivity
1*	1	1

*Indicates chronic health hazard

Section 16. Other Information

Revision Date : October 1, 2015

Disclaimer

The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet. However, this SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

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