

# SAFETY DATA SHEET

## Hot Mix Asphalt (HMA)



### Section 1:

### IDENTIFICATION

Product Name:	Hot Mix Asphalt (HMA)
Generic ID:	Hot Mix Asphalt, HMA, Blacktop, Bituminous Concrete
Usage and Restrictions:	HMA is used for paving roads, driveways, parking lots and other surface, base, or sub-base applications.
Supplier Details:	Principio Asphalt 1050 Belvidere Road Port Deposit, MD 21904
Emergency Phone #:	717.771.3545

### Section 2:

### HAZARD(S) IDENTIFICATION

GHS Classification:	Carcinogenicity:	2 H351
GHS Label Elements:		
Signal Word:	Warning	
Hazard Statements:	H351 - Suspected of causing cancer.	
Precautionary Statements:	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves, protective clothing, and eye protection. P308+P313 - If exposed or concerned: Get medical advice/attention. P405 - Store locked up. P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.	
Other Hazards:	Product contains crystalline silica; repeated inhalation of crystalline silica causes damage to organs and may cause cancer. Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) can be aggravated by exposure. Dust may cause mechanical irritation to eyes, nose, throat, and lungs. Direct contact may result in corneal injury. Additionally, the product contains low levels of polynuclear aromatics (PNAs), which may cause skin lesions and skin cancer. At elevated temperatures, this product will cause thermal burns and may release toxic hydrogen sulfide (H <sub>2</sub> S). Hydrogen sulfide is a fatal and highly flammable gas with a rotten egg odor that quickly causes odor fatigue. Explosion can occur if hydrogen sulfide is allowed to accumulate in the headspace of closed systems in the presence of an ignition source.	

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### Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)	OSHA/MSHA PEL (mg/M <sup>3</sup> )	ACGIH TLV (mg/M <sup>3</sup> )
Limestone	1317-65-3	50-100	N/A	N/A
Quartz 0.1(1997)(R)	14808-60-7	<1.0	10/(%SiO <sub>2</sub> +2)(R)	
Carbonic Acid	546-93-0	<50	N/A	N/A
Petroleum Asphalt Oil	8052-42-4	<10	N/A	.05

### Section 4: FIRST AID MEASURES

#### Description of Necessary First Aid Measures:

Eye Contact:	Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contacts if present and easy to do. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation develops or persists.
Inhalation:	Move to fresh air. Call a physician if symptoms develop or persist.
Skin Contact:	Wash with soap and water. Get medical attention if irritation develops and persists.
Ingestion:	Rinse mouth and drink plenty of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

#### Most Important Symptoms & Effects, Both Acute and Delayed:

Skin Contact:	Emissions from asphalt are suspected of causing cancer. Dust may cause immediate or delayed irritation to eyes, skin and respiratory tract. During processing, inhalation of fumes may cause dizziness and/or irritation to the eyes, nose, and throat. This product if heated, may release asphalt fumes that may cause irritation to the throat, nose and skin irritation. If inhaled, the fumes may cause nausea, headache, or dizziness. Prolonged and repeated contact with cold asphalt may cause dermatitis and other skin problems, while contact with hot product will cause thermal burns. If ingested, the product may cause internal organ irritation and may cause possible nausea, vomiting, and diarrhea. Hot asphalt droplets or particles can cause eye burns or irritation. A splash in the eye of hot asphalt can cause serious eye injury. Hot molten product will cause thermal burns to the skin.
Eye Contact:	HMA dust may cause dry skin, discomfort, irritation and dermatitis. When this product is subject to high heat RAP will cause severe burns. Eye contact to airborne dust may cause immediate or delayed irritation or inflammation. Eye exposures require immediate first aid and medical attention to prevent damage to the eye.
Ingestion:	Do not ingest HMA. Ingestion of small quantities is not known to be harmful; ingesting large quantities can cause intestinal distress. May cause nausea, vomiting, and diarrhea.
Chronic Symptoms:	

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### Section 4:

### FIRST AID MEASURES

Exposure to fumes, vapors, or dust may cause irritation of the nose, throat, and respiratory system. Hot HMA releases irritating fumes or vapors; symptoms may include headache, dizziness, loss of coordination, and drowsiness. Cutting, crushing or grinding hardened asphalt will release dust.

#### Inhalation:

Breathing dust may cause irritation and silicosis. The three types of silicosis include: 1) Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD); 2) Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years); 3) Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels. Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis. Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. Silicosis increases the risk of tuberculosis. Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica.

**WARNING:** irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these

levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500ppm can cause rapid unconsciousness and death if not promptly revived.

#### Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:

If burned by hot product, cool affected area immediately with cool water. Do not attempt to remove solidified material from skin or eyes. Seek medical attention immediately. If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container, label, or SDS at hand.

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### Section 5:

### FIRE-FIGHTING MEASURES

#### Extinguishing Media:

Suitable Extinguishing Media:	Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2)
Unsuitable Extinguishing Media:	Do not use water when molten material is involved. Use of water on hot/molten product will result in a violent expansion as the water turns to steam causing explosion with massive force.
Special Protective Equipment For Fire-Fighters:	Use protective equipment appropriate for surrounding materials. No specific precautions.

### Section 6:

### ACCIDENTAL RELEASE MEASURES

#### Personal Precautions, Protective Equipment and Emergency Procedures:

Do not breathe dust, vapor, or gas. Avoid all contact with skin, eyes, or clothing. Equip cleanup crew with proper protection. Emergency Procedures: Ventilate area.

#### Methods and Materials For Containment and Cleaning-Up

Allow liquid material to solidify before cleaning up. Place spilled material into a container. Avoid actions that cause dust to become airborne. Avoid inhalation of dust. Wear appropriate protective equipment.

### Section 7:

### HANDLING AND STORAGE

#### Precautions for Safe Handling:

**Additional Hazards When Processed:** If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas. Hydrogen sulfide is a toxic gas that can be fatal. Exercise caution and ensure adequate ventilation. Cutting, crushing or grinding hardened asphalt or other crystalline silica-bearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression and Personal Protective Equipment (PPE) described in Section 8.

**Precautions for Safe Handling:** Do not handle until all safety precautions have been read and understood. Protect skin and eyes from contact with molten material. Do not breathe dust or fumes.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash contaminated clothing before reuse.

#### Conditions for Safe Storage, Including Any Incompatibilities:

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

**Incompatible Materials:** Fluorine, magnesium, acids, alum, ammonium salts, strong acids, formaldehyde.

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### Section 8: EXPOSURE CONTROLS AND PERSONAL MEASURES

#### Individual Protection Measures:

Eye/Face Protection:	Safety glasses with side shields should be worn as a minimum protection. Wear chemical goggles to prevent eye contact with material.
Skin Protection:	Resistant gloves should be worn to protect hands. Protective clothing should be worn to prevent skin contact.
Respiratory Protection:	When first opening tank trucks, railcars, or other containers, it is recommended to wear appropriate NIOSH approved respiratory protection. Appropriate NIOSH approved respiratory protection must be worn if material is heated and/or generates asphalt fumes and/or hydrogen sulfide above the OSHA and ACGIH recommended limits.
Ventilation:	Use local exhaust or general dilution ventilation to control exposure within applicable limits.
Thermal Hazard Protection:	If material is hot, wear thermally resistant protective gloves. Protect skin and eyes from contact with molten material.

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### Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Appearance:	Coarse granular black material
	Color:	Black
	Odor:	Slight petroleum odor
	Odor Threshold:	Not applicable.
	Physical State:	Solid.
	pH:	Not applicable.
	Melting/Freezing Point:	Not applicable.
	Boiling Point:	>350F
	Flash Point:	>93.3C (200F)
	Evaporation Rate:	Not applicable.
	Flammability:	Not flammable.
	Lower Flammability/Explosive Limit:	Not applicable.
	Upper Flammability/Explosive Limit:	Not applicable.
	Vapor Pressure:	Not applicable.
	Vapor Density:	Not applicable.
	Relative Density/Specific Gravity:	Not applicable.
	Solubility:	Insoluble in water.
	Partition coefficient: n-octanol/water:	Not applicable.
	Auto-ignition Temperature:	Not applicable.
	Decomposition Temperature:	Not applicable.
	Viscosity:	Not applicable.
	SADT:	Not applicable.
	Oxidizing Properties:	Not applicable.
	Explosive Properties:	Not expected to present an explosion hazard due to mechanical impact or static discharge.

### Section 10: STABILITY AND REACTIVITY

Reactivity:	May release poisonous hydrogen sulfide.
Chemical Stability:	Material is stable under normal conditions.
Hazardous Reaction Possibility:	No dangerous reaction known under conditions of normal use.
Conditions to avoid:	Keep away from ignition sources. Avoid contact with incompatible materials.
Incompatible materials:	Fluorine, magnesium, acids, alum, ammonium salts, strong acids, formaldehyde.
Hazardous decomposition:	Thermal decomposition generates: Carbon oxides (CO, CO <sub>2</sub> ), Hydrocarbons. Hot asphalt can release toxic Hydrogen Sulfide. Hydrogen Sulfide can accumulate in vapor space of tanks and vessels during transfer and storage of this material. Hydrogen sulfide is a toxic gas that can be fatal.

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### Section 11: TOXICOLOGICAL INFORMATION

For questions regarding toxicological information refer to contact information in Section 1.

### Section 12: ECOLOGICAL INFORMATION

For questions regarding ecological information refer to contact information in Section 1.

### Section 13: DISPOSAL CONSIDERATIONS

Dispose of waste and containers in compliance with applicable Federal, State, Provincial and Local regulations. Where possible, recycling of used and unused uncontaminated substance is recommended.

### Section 14: TRANSPORTATION INFORMATION

#### 14.1. In Accordance with DOT

Proper Shipping Name : ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100 C and below its flash point (Asphalt)

Hazard Class : 9

Identification Number : UN3257

Label Codes : 9      Packing Group : III      ERG Number : 128

#### 14.2. In Accordance with IMDG

Proper Shipping Name : ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100 C and below its flash point (Asphalt)

Hazard Class : 9

Identification Number : UN3257

Label Codes : 9      Packing Group : III      EmS-No. (Fire) : F-A      EmS-No. (Spillage) : S-P

#### 14.3. In Accordance with IATA

Proper Shipping Name : ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100 C and below its flash point (Asphalt)

Identification Number : UN3257

Hazard Class : 9

Label Codes : 9      ERG Code (IATA) : 9L

#### 14.4. In Accordance with TDG

Proper Shipping Name : ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100 C and below its flash point (Asphalt)

Packing Group : III

Hazard Class : 9

Identification Number : UN3257

Label Codes : 9

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### Section 15:

### REGULATORY INFORMATION

#### **Safety, Health and Environmental Regulations/ Legislations Specific For The Chemical:**

US: SDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

Limestone (1317-65-3): Listed on the United States TSCA (Toxic Substances Control Act) inventory

Carbonic acid, magnesium

salt (1:1) (546-93-0): Listed on the United States TSCA (Toxic Substances Control Act) inventory

Quartz (14808-60-7): Listed on the United States TSCA (Toxic Substances Control Act) inventory  
SARA Sect. 311/312 Hazard Classes: Immediate (acute) health hazard; Delayed (chronic)  
health hazard

Asphalt (8052-42-4): Listed on the United States TSCA (Toxic Substances Control Act) inventory  
SARA Section 311/312 Hazard Classes: Delayed (chronic) health hazard

### Section 16:

### OTHER INFORMATION

Date of Preparation: 07-09-15

Expiration Date: None

Version: 1.0

Revision Date: 01-30-15

Other: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but are given without warranty or guarantee of any kind. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with asphalt. Users should review other relevant material safety data sheets before working with this product. Inexperienced product users should obtain proper training before using this product. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

- END -