


Section 1 - Product and Company Identification

Material Identity: Hot Mix Asphalt	
Trade Names/Synonyms: Asphalt, Blacktop, Hot Mix (all types, may contain rap), Asphalt Concrete	
Manufacturer Information: Blue Water Industries 200 West Forsyth Street, Suite 1200 Jacksonville, FL 32202 Telephone Number: 1-865-617-0154 or 1-270-535-9762 Contact: Safety and Health Manager	Primary Use of the Product: Hot mix asphalt is used as a construction material.

Section 2 – Hazards Identification
GHS Classification:

Carcinogenicity – Category 1A Specific Target Organ Toxicity (Repeat Exposure) – Category 2 Serious Eye Damage/Eye Irritation – Category 1	
Signal Word Danger	Hazard Statements May cause cancer (inhalation). Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (inhalation). May cause respiratory irritation. Causes severe eye damage.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust, fume, or vapors. Use only outdoors in a well-ventilated area. Wash hands, forearms, and exposed areas thoroughly after handling. Do not eat, drink, or smoke when manually handling this product. Use personal protective equipment as required. Wear protective gloves, protective clothing, eye protection, and face protection. Product may contain or release hydrogen sulfide, which is highly toxic and is a flammable gas. Assessment of storage tanks, transport vessels, and other confined spaces should be made to determine potential exposures and appropriate controls.

Response: If exposed or concerned: Immediately call a Poison control center or doctor/physician. If on skin: Wash with plenty of water. Remove/take off immediately all contaminated clothing and wash it before reuse. Rinse cautiously with water for several minutes. If in eyes: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do. If inhaled: Remove person to fresh air and keep comfortable for breathing. If swallowed: Rinse mouth. Do not induce vomiting.

Storage: Store in a well ventilated place.

Disposal: Dispose of contents/container according to local, regional, national, and international regulations.

Supplemental Information: Heated material can cause thermal burns. Fumes from heated asphalt may be irritating to the eyes, nose, and throat. Hot mix asphalt contains aggregate, a natural occurring mineral. Aggregates may contain variable degrees of quartz (crystalline silica) which may cause cancer. Repeated inhalation of respirable crystalline silica (quartz) may cause lung cancer according to IARC and NTP; ACGIH states that it is a suspected cause of cancer. Other forms of RCS (e.g., tridymite and cristobalite) may also be present or formed under certain industrial processes. Release of silica should only occur if product is hammered, ground, or otherwise broken/damaged after hardening.

Section 3 – Composition/Information on Ingredients

Name	Product Identifier (CAS#)	Percent
Aggregates Products: (limestone, crushed stone, sand, or gravel)	Mixture	90-95
Asphalt	8052-42-4	< 10
The structure of hot mix asphalt may contain: <ul style="list-style-type: none"> • Quartz (crystalline silica) • Hydrogen Sulfide • Additives 	14808-60-7 7783-06-4 Mixture	> 1 > 1 > 1

NOTE: Any concentrations shown as a range is to protect the confidentiality or is due to process variations. Many of these materials are mined from the earth. As such, trace amounts of additional elements might be detected during chemical analysis of these materials.

Section 4 – First Aid Measures

Inhalation: Remove person to fresh air. Obtain medical attention if lung irritation persists or later develops. If not breathing, administer oxygen by trained personnel and assist ventilation as required. Do not attempt to rescue victim from confined space without proper PPE.

Skin: If hot material contacts the skin, quickly remove contaminated clothing (if possible) and cool immediately by immersing the contacted skin in cool water to limit tissue damage and skin damage. For extensive burns cover with sterile bandage. Molten product may adhere strongly to skin and attempted removal may cause severe distress and further tissue damage. Do not use solvents to remove product from the skin. For product dust that is not hot, wash off with soap and water. Get medical attention if irritation develops/persists.

Eyes: Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding eyelid(s) open. Remove contact lenses, if present and easy to do. Continue flushing. Beyond flushing, do not attempt to remove material from the eye(s). Obtain medical attention if irritation develops or persists.

Ingestion: If swallowed, do not induce vomiting. Drink a large volume of water and get immediate medical attention. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than hips to prevent aspiration.

Most important symptoms/effects, acute and delayed:

Direct contact can produce thermal burns. If ingested, hot mix asphalt may be absorbed by the gastrointestinal tract with possible systemic effects (irritation, vomiting, diarrhea, and CNS depression), and possible aspiration to the lungs. Emissions from heated material may have an unpleasant odor and may cause moderate to severe irritation of the mucous membranes and upper respiratory tract, headaches, nausea, and dizziness. Hydrogen sulfide gas may be released. Do not depend on sense of smell for warning of overexposure, since the gas causes rapid olfactory fatigue which deadens the sense of smell at levels as low as 50 ppm. Unconsciousness and asphyxiation may occur in poorly ventilated or confined spaces. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer. Symptoms of silicosis may include (but are not limited to) shortness of breath, difficulty breathing, coughing, diminished work capacity, diminished chest expansion, reduction of lung volume, right heart enlargement and/or failure

Indication of immediate medical attention and special treatment needed: See Section 11 for additional information.

Provide general supportive measures and treat symptomatically. Keep victim under observation as symptoms may be delayed. Ensure that medical personnel and first responders are aware of the material(s) involved and protect themselves. Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders).

Section 5 – Fire Fighting Measures

Suitable Extinguishing Media: Agents approved for Class B hazards and water fog are considered as most appropriate.

Unsuitable Extinguishing Media: Avoid straight steam water. Adding water to hot asphalt in a container presents an explosion hazard.

Specific Hazards Arising from the Chemical: Do not heat above flash point. Fumes/vapors can explode when concentrated in an enclosed environment and supplied with an ignition source. Never weld or cut on a full, partially full, or empty bin, hopper, or other container that holds or has held asphaltic materials unless precautions have been taken to prevent explosion. **WARNING:** Hydrogen sulfide and other hazardous gas/vapors may collect in the headspace of storage tanks/vessels and can create toxic, explosive or oxygen deficient atmosphere. See Section 11 for additional information.

Special Protective Equipment and Precautions for Firefighters: Avoid breathing irritating and potentially toxic fumes, including hydrogen sulfide gas. Firefighters should wear NIOSH/MSHA approved positive pressure breathing apparatus (SCBA) with full-face mask and full protective equipment.

Fire-fighting equipment and instructions: Adding water to hot asphalt presents an explosion hazard.

Specific methods: Cool all affected containers close to the fire with flooding quantities of water.

Section 6 – Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

If hot product is spilled, evacuate unnecessary personnel, remove all heat and ignition sources and provide explosion proof ventilation. Clean-up personnel should protect against vapor inhalation and skin or eye contact through proper PPE. Use water sprays to reduce vapors. Prevent materials from entering streams, drainages, or sewers. Spills entering surface waters or sewers entering/leading to surface waters must be reported to the National Response Center (800-424-8802).

Environmental Precautions

Stop leak and contain spilled material with sand, aggregates fines, or other inert absorbent. Collect absorbed product and clean up materials in an appropriate container for proper disposal. Dike far ahead of larger spills and contain for later disposal. Prevent entry into waterways or sewers.

Methods and Material for Containment and Cleaning up

Allow materials to solidify before cleaning-up. Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Avoid discharge of fine particulate matter into drains or watercourses. Do not dry sweep broken, dusty material. Use water spray to minimize dust or vacuum with HEPA filters. Contact the asphalt plant to determine feasibility of recycling material. Dispose of waste materials in accordance with applicable federal, state, and local laws and regulations.

See Section 8 of SDS for information related to Exposure Controls and Personal Protection.

Section 7 – Handling and Storage

Precautions for Safe Handling

Do not handle until all safety precautions have been read and understood. Follow personal protection and protective controls set forth in Section 8 of this SDS when handling this product. Do not get this material in contact with eyes. Do not get this material in contact with skin. Use only with adequate ventilation. If personnel must enter a tank or other confined space that contained this material, follow the OSHA Confined Space Entry Program as specified in 29 CFR 1910.146. Respirable crystalline silica contained dust may be generated when hardened asphalt mix is subjected to mechanical forces, such as demolition work, surface treatment, and/or recycling of pavement. Provide adequate ventilation and personal protective equipment.

Do not attempt to clean empty containers. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death. Tripping incidences have occurred because of asphalt buildup on bottoms of shoes and boots; buildup should be removed regularly to prevent such incidences. Do not use solvents or thinners to clean footwear.

Hygiene Measures: Do not eat, drink or smoke when using this product. Use good personal hygiene practices. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Avoid heat, sparks, open flames and other ignition sources. Keep this material away from food, drink and animal feed. Keep out of reach of children. Vapors containing hydrogen sulfide may accumulate during storage or transport of asphaltic materials. When petroleum asphalt products are heated, potentially irritating emissions (fumes, mists, and vapors) may be released.

Section 8 – Exposure Controls/Personal Protection

Control Parameters

Quartz (14808-60-7) (crystalline silica)		
ACGIH	ACGIH TLV-TWA (mg/m ³)	0.025 mg/m ³ (Respirable fraction)
NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³ (Respirable dust)
OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³ (Respirable dust) 0.3 mg/m ³ (Total dust)
MSHA	MSHA PEL (mg/m ³)	10 mg/m ³ ÷ (% silica + 2) (Respirable dust) 30 mg/m ³ ÷ (% silica + 3) (Total dust)

NOTE: The OSHA/MSHA PEL for crystalline silica as tridymite and cristobalite is one-half the PEL for crystalline silica (quartz). The ACGIH TLV for crystalline silica as cristobalite is equal to the TLV for crystalline silica as quartz.

Limestone (Calcium Carbonate) (1317-65-3)		
ACGIH	ACGIH TLV-TWA (mg/m ³)	10 mg/m ³ (Total dust as calcium carbonate)
NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³ (Respirable fraction) 10 mg/m ³ (Total dust)
OSHA	OSHA PEL (mg/m ³)	5 mg/m ³ (Respirable fraction) 15 mg/m ³ (Total dust)
MSHA	MSHA PEL (mg/m ³)	5 mg/m ³ (Respirable fraction) 10 mg/m ³ (Total dust)

Particulates not otherwise regulated (PNOR) (RR-00072-6)		
ACGIH	ACGIH TLV-TWA (mg/m ³)	3 mg/m ³ (Respirable fraction) 10 mg/m ³ (Total dust)
OSHA	OSHA PEL (mg/m ³)	5 mg/m ³ (Respirable fraction) 15 mg/m ³ (Total dust)

Asphalt (8052-42-4) Fumes		
ACGIH	ACGIH TLV-TWA (mg/m ³)	0.05 mg/m ³ (as benzene-soluble aerosol)
NIOSH	NIOSH REL (TWA) (mg/m ³)	Ceiling 5 ppm

Hydrogen Sulfide (7783-06-4)		
ACGIH	ACGIH TLV-TWA (mg/m ³)	10 ppm STEL 15 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	Ceiling 10 ppm
OSHA	OSHA PEL (mg/m ³)	Ceiling 20 ppm

Exposure Controls

Appropriate Engineering Controls:

Ventilation: Utilize general ventilation, local ventilation, or natural ventilation adequate to maintain exposures below appropriate exposure limits. Workers should station themselves on the upwind side of asphalt emissions when possible. Use only in well-ventilated areas.

Exposure Guidelines: Respirable dust and crystalline silica levels should be monitored regularly. Dust and crystalline silica levels in excess of appropriate exposure limits should be reduced by implementing feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee workstations.

Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal Protective Equipment: Protective eyewear, gloves, protective clothing, respiratory protection when insufficient ventilation or exposure limits are exceeded.



Eye Protection:

Safety glasses with side shields should be worn as minimum protection. Use a full-face shield and chemical safety goggles if handling heated material.

Hand Protection:

Avoid skin contact with material by wearing impervious gloves. With product at ambient temperatures, use disposable nitrile, neoprene, or butyl rubber material. When handling hot material, use heat resistant gloves.

Skin and Body Protection:

Wear appropriate clothing to minimize skin contact. When handling hot material, use heat resistant clothing.

Respiratory Protection:

Not expected or necessary under normal use and working conditions. If vapors from heated product exceed appropriate exposure limits use appropriate NIOSH approved respiratory protection. When handling or performing work that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH-approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations. Supplied air respirators should be used if it is expected the hydrogen sulfide is present, or when entering confined or enclosed spaces where hydrogen sulfide may be present.

Environmental Exposure Controls:

Prevent entry into sewers or drainage systems. Ensure waste is contained, collected, and disposed of in accordance with federal, state, and local laws and regulations.

Consumer Exposure Controls:

Do not eat, drink, or smoke when manually handling this product.

Section 9 – Physical and Chemical Properties

Physical State : Semi-Solid	Appearance: Semi-solid tar-like material with dispersed aggregate (angular dark gray to black particles ranging in size from powder to small stones)	Odor : Petroleum odor.	pH : Not applicable
Evaporation Rate : Not applicable	Melting Point : 200° F	Freezing Point : Not applicable	Boiling Point : 878° F
Flash Point : >450° F	Auto-ignition Temperature : Not applicable	Decomposition Temperature : Not applicable	Flammability (solid/gas) : Not applicable
Vapor Pressure : Not applicable	Vapor Density : >1	Specific Gravity : 2.0 – 2.5	Solubility : Negligible

Other Information : None

Section 10 – Stability and Reactivity

Reactivity: Not reactive under normal use.

Chemical Stability: Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions: None under normal use.

Conditions to Avoid: Avoid high temperatures, open flames, sparks, welding, smoking and other sources of ignition. May readily ignite when mixed with naphtha and other volatile solvents. Avoid incompatible materials (see below and Section 5 and Section 7 for more information).

Incompatible Materials: Contact with strong oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosions. Adding water to hot asphalt presents an explosion hazard.

Hazardous Decomposition Products: Thermal decomposition may release carbon monoxide, carbon dioxide, hydrogen sulfide, nitrogen dioxide, ozone and other organic and inorganic compounds. Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride. Hazardous vapors can collect in enclosed vessels or areas if not properly ventilated.

Section 11 – Toxicological Information

Primary Routes of Exposure: Inhalation and contact with the eyes and skin.

Inhalation: Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause other adverse health effects including lung and kidney cancer. Fumes, mists, or vapors may cause respiratory irritation. Contains or may release hydrogen sulfide gas, which may accumulate in confined spaces. Hydrogen sulfide gas may be harmful or fatal if inhaled.

Eye Contact: May cause eye irritation. Direct contact with hot material can cause severe thermal burns. Hardened material may scratch the eye causing tearing, redness, and a stinging sensation. Fumes, vapors, or mists may be irritating.

Skin Contact: May cause skin irritation. Direct contact with hot material can cause severe thermal burns. Hardened material may cause irritation due to abrasive effects.

Ingestion: Not likely due to product form. However, ingestion of large amounts of product may cause gastrointestinal irritation and blockage. Direct contact with hot material can cause severe thermal burns.

Acute Toxicity: Not Classified

Quartz (14808-60-7)	
LD50 Oral Rat	>5000 mg/kg
LD 50 Dermal Rat	>5000 mg/kg

Asphalt (8052-42-4)	
LD50 Oral Rat	>5000 mg/kg
LD50 Dermal Rat	>2000 mg/kg

Carcinogenicity: May cause cancer (inhalation).

Quartz (14808-60-7)	
IARC Group	1
National Toxicity Program (NTP) Status	Known Human Carcinogen
ACGIH	Suspected Human Carcinogen (A-2)

Asphalt (8052-42-4)	
IARC Group	2B
ACGIH	Not Classified as Human Carcinogen (A-4)

Section 11 – Toxicological Information (continued)

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Toxicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (Inhalation). Prolonged overexposure to respirable crystalline silica dust above the allowable limits can cause pneumoconiosis (lung disease) known as silicosis.

Repeated and prolonged exposure inhalation of respirable crystalline silica-containing dust in excess of allowable limits may cause a chronic silicosis, an incurable lung disease that may result in permanent lung damage or death. Chronic silicosis may occur after 10 years or more of overexposure; accelerated silicosis may occur between 5 and 10 years of higher levels of exposure. Symptoms of silicosis may include, but are not limited to: shortness of breath; difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure. Persons with silicosis have an increased risk of pulmonary tuberculosis infection. Not all individuals will exhibit symptoms in the early stages of silicosis.

Repeated and prolonged overexposures to very high levels of respirable crystalline silica for periods as short as six months may cause acute silicosis. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include, but are not limited to: shortness of breath, cough, fever, weight loss, and chest pain.

Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders). There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with adverse health effects involving the kidney, scleroderma (thickening of the skin caused by swelling and thickening of fibrous tissue) and other autoimmune disorders. However, to date, this evidence does not conclusively prove a causal relationship between silica or silicosis and these adverse health effects. Smoking tobacco will impair the ability of the lungs to clear themselves of dust.

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.

Chronic Symptoms: Prolonged or repeated exposure to asphalt may cause skin disorders such as dermatitis and acne-like lesions or on rare occasions, pigmentation of the skin. Chronic inhalation of high concentrations of asphalt emissions may cause chronic bronchitis and inflammation of the lungs. Repeated exposure to hydrogen sulfide may cause eye effects including conjunctivitis and corneal injuries. There is no evidence that hydrogen sulfide will accumulate in body tissue.

Section 12 – Ecological Information

Toxicity: No information available for the product

Persistence and Degradability: No information available for the product

Bioaccumulative Potential: No information available for the product

Mobility in Soil: No information available for the product

Section 13 – Disposal Considerations

Waste Disposal Recommendations: Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/international regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Section 14 – Transport Information

In Accordance with DOT: Not regulated

In Accordance with IMDG: Not regulated

In Accordance with IATA: Not regulated

Section 15 – Regulatory Information

Toxic Substances Control Act (TSCA)

The components in this product are listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

Releases of this material to water may be reportable to the National Response Center under CERCLA

Superfund Amendments and Reauthorization Act of 1986 (SARA), Title III

Section 302 Extremely Hazardous Substance: None

Section 311/312 Hazardous Categories: Immediate Hazard; Delayed Health

Section 313 Reportable Ingredients at or Above di minimus Concentrations: None

California Proposition 65:

This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

State Regulatory Lists:

Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should review the components listed in Section 2 and consult state or local authorities for specific regulations that apply.

Section 16 – Other Information

Revision Date: February 2018

DISCLAIMER:

NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.

The Company believes the information contained herein is accurate; however, the Company makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein by any party. The provision of the information contained herein is not intended to be and should not be construed as legal advice or as ensuring compliance with any federal, state or local laws and regulations. Any party using this product should review all such laws, rules or regulations prior to use.