



# Hot Mix Asphalt

## Material Safety Data Sheet

Peckham Industries, Inc.  
20 Haarlem Ave.  
White Plains, NY 10603

Revision Date: 8/14/2006

### Emergency Overview

**Appearance:** Black, granular  
**Odor:** Petroleum odor

#### WARNING:

Hot product can cause burns to skin. If burned by hot product, remove contaminated clothing, if possible, and immediately flush with cool water for at least 15 minutes. Iced water or cold packs may be applied to burned area. Do not attempt to remove material from a burn; natural separation will occur in 48-72 hours. Get immediate medical attention. If early removal of material is necessary, soak a sterile bandage in mineral oil and place over affected area for 2-3 hours.

### Hazard Rankings

	HMIS	NFPA
Health Hazard	1	1
Fire Hazard	0	0
Flammability	0	0
Reactivity	0	0

### Protective Equipment

**Minimum Recommended**  
See Section 8 for Details

This recommendation reflects minimum PPE when product is at elevated temperatures.



## SECTION 1. PRODUCT IDENTIFICATION

**Trade Name:** Hot Mix Asphalt      **Technical Contact:** (914) 949-2000  
**Medical Emergency:** (800) 424-9300

**CAS Number:** Mixture      **CHEMTREC Emergency:** (800) 424-9300  
(United States Only)

**Synonyms:** Blacktop, Hot Mix (all types; may contain RAP), Hot Mix Paving Material, Petroleum-derived Asphalt Concrete, Asphaltic Concrete

## SECTION 2. COMPOSITION

Component Name(s)	CAS Registry No.	Concentration (%)
Aggregate (crushed stone, sand, gravel) - Composition varies naturally; typically contains quartz (crystalline silica)	Mixture 14808-60-7	> 90 > 1
Asphalt Cement - Contains Hydrogen Sulfide	8052-42-4 7783-06-4	< 10 < 0.2
Additives	Mixture	< 1

## SECTION 3. HAZARDS IDENTIFICATION

**Note:** The major hazard associated with asphalt mixes is their ability, when heated, to cause severe thermal burns.

**Major Route(s) of Entry:** Skin and Inhalation.

### Signs and Symptoms of Acute Exposure

**Eye Contact:** Direct contact can cause thermal burns. Emissions may be irritating.

**Skin Contact:** Direct contact can cause thermal burns. Emissions may be irritating. There may be an increased sensitivity to the sun (photosensitization) when the skin is exposed to asphalt emissions (fumes, vapors, or mists). Not expected to be a significant exposure route following short-term exposure.

**Inhalation:** Emissions from the heated material may have an unpleasant odor, produce nausea, and be a moderate to severe irritant of the mucous membranes and upper respiratory tract. Unconsciousness and asphyxiation may occur in poorly ventilated or confined spaces.

**Ingestion:** Direct contact can cause thermal burns. Asphalt has low systemic toxicity when ingested. However, chewing asphalt has caused gastrointestinal effects. Gastric masses (Bezoars) and stomach (pyloric) obstructions have been reported in individuals who have chewed and swallowed asphalt. Aspiration of product into lungs may occur when vomiting, and possibly result in pulmonary edema and chemical pneumonia.

### Medical Conditions Aggravated By Exposure:

Existing abnormal conditions of the skin and/or respiratory system may be aggravated by exposure to hot-mix asphalt fumes and vapors. Exposure to dust from disrupted hardened asphalt concrete may aggravate respiratory diseases or dysfunctions, and skin and eye conditions.

**Note:** Contains or may release hydrogen sulfide (H<sub>2</sub>S) gas which can be extremely hazardous, particularly in confined spaces. Do not depend upon the sense of smell for warning of overexposure, since H<sub>2</sub>S causes rapid olfactory fatigue which deadens the sense of smell at levels as low as 50 ppm. Exposure to H<sub>2</sub>S concentrations above the permissible exposure limit causes irritation of the mucous membranes, headache, dizziness, vomiting, coughing, nasal discharge, and pulmonary edema. At H<sub>2</sub>S levels between 500 and 700 ppm, respiratory paralysis, loss of consciousness, and possibly death can occur within 30 to 60 minutes. Exposure to higher concentrations of H<sub>2</sub>S can result in immediate death. Repeated exposure to low levels of H<sub>2</sub>S may also cause eye effects including conjunctivitis and corneal injury. There is no evidence that H<sub>2</sub>S will accumulate in the body tissue after repeated overexposure.

## SECTION 4. FIRST AID MEASURES

**Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid.**

**Eye Contact:** Check for and remove contact lenses. Immediately flush eye(s) with clean water for at least 15 minutes, while holding eyelid(s) open. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Get immediate medical attention.

**Skin Contact:** Hot Material: Remove contaminated clothing, if possible, and immediately flush with cool water for at least 15 minutes. Iced water or cold packs may be applied to burned area. Do not attempt to remove material from a burn; natural separation will occur in 48-72 hours. Get immediate medical attention. If early removal of material is necessary, soak a sterile bandage in mineral oil and place over affected area for 2-3 hours. Cold Material: Clean exposed skin with soap or mild detergent and large amounts of water until all traces are removed from the skin. Do not use solvents or thinners to remove material from skin.

**Inhalation:** Remove person to fresh air. Get immediate medical attention if breathing is difficult, or if irritation persists or later develops.

**Ingestion:** 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.

**Note to Physicians:** In general, emesis induction is unnecessary in high viscosity, low volatility products. Inhalation exposure of hydrogen sulfide may result in pulmonary congestion. Patients may be predisposed to pneumonia during convalescence, and should be kept under observation. Contact a Poison Control Center for additional treatment information.

## SECTION 5. FIRE FIGHTING MEASURES

<b>NPFA Flammability Classification</b>	Not applicable	<b>Flash Point</b>	Product: > 500°F (COC)
<b>Hazardous Combustion Products</b>	Not applicable	<b>Flammable Limits In Air</b>	Not applicable

**Unusual Fire and Explosion Hazards** 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 use a cutting torch or open flame on or near full or partially full or empty containers because vapors can ignite explosively. Adding water to hot asphalt presents an explosion hazard.

**Extinguishing Media** Agents approved for Class B hazards (e.g. dry chemical, carbon dioxide, halogenated agents foam, steam) and water fog. Avoid use of straight-stream water. Use water to keep fire-exposed containers cool. Do not let water make direct contact with hot material in a container due to the potential for a violent explosion.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

---

**Protective Measures** Not applicable

**Spill Management** Prevent spilled materials from entering streams, drainages, or sewers.

**Reporting** Spills entering surface waters (or any other watercourse or sewers entering/leading to surface waters) that cause a sheen must be reported to the U.S. Coast Guard's National Response Center at (800) 424-8802. Based on volume and use, components of this product may be subject to the reporting requirements of Title III of SARA, 1986, and 40 CFR 372.

## SECTION 7. HANDLING AND STORAGE

---

Follow personal protection and controls set forth in Section 8 of this MSDS when handling this product.

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

**Storage** Store away from all ignition sources and open flames in accordance with applicable laws and regulations. Storage containers should be vented to prevent overpressurization and vacuum. If personnel must enter a tank that contained this material, follow the OSHA Confined Space Entry Program as specified in 29 CFR 1910.146. Do not store near food and beverages or smoking materials.

Vapors containing hydrogen sulfide may accumulate during storage or transport of asphaltic materials. When petroleum asphalt products are heated, potentially irritating emissions (fumes, mists, vapors) may be released. Respirable crystalline silica-containing dust may be generated when hardened asphalt concrete is subjected to mechanical forces, such as demolition work, surface treatment (sanding, grooving, chiseling, etc), and recycling of pavement.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Personal Protective Equipment

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required. This recommendation reflects minimum PPE when product is at elevated temperatures.



### Eye Protection

Safety glasses with side shields should be worn as minimum protection. Wear chemical safety goggles to prevent eye contact with material.

### Skin Protection

Avoid skin contact with material by wearing impervious gloves and protective clothing.

### Respiratory Protection

Not required under normal use and working conditions. For air contaminant concentrations which exceed or are likely to exceed applicable exposure limits, use a NIOSH approved, contaminant-specific, air-purifying respirator. If such concentrations are sufficiently high that the air-purifying respirator is inadequate, or if oxygen adequate to sustain life is not present, use a positive pressure self-contained breathing apparatus. Respirator use must comply with applicable OSHA standards, which include provisions for a user training program, respirator repair and cleaning, respirator fit testing, and other requirements.

### Ventilation

General dilution or local exhaust ventilation as required to maintain exposures below appropriate exposure limits. Use only in well ventilated areas.

### Hygiene

It is recommended that workers wash their hands before eating, drinking, smoking, and using toilet facilities. Laundering clothing between uses is recommended. Clean skin with soap and water, or an oil-dissolving skin cleaner. Do not use thinners to remove material from skin.

### Other Control Measures

A clean water supply for emergency first aid and washing facilities should be readily available. An oil-dissolving skin cleaner should be available. Workers should station themselves on the upwind side of asphalt emission when possible. It is recommended that asphalt emissions be monitored regularly to determine exposure levels. Respirable dust levels should be monitored regularly for activities which generate dust from hardened asphalt concrete. Dust levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.

### Occupational Exposure Guidelines

When exposure to this product and other chemicals in concurrent, the exposure limit must be defined in the workplace.

**Asphalt Fumes:** TLV = 0.5 mg/m<sup>3</sup> (as benzene-soluble inhalable aerosol); Proposed PEL = 5 mg/m<sup>3</sup>

**Other Particulates:** TLV = 10 mg/m<sup>3</sup> (total inhalable particulate, not otherwise classified), TLV = 3 mg/m<sup>3</sup> (respirable particulate, not otherwise classified); PEL = 15 mg/m<sup>3</sup> (total particulate, not otherwise regulated), PEL = 5 mg/m<sup>3</sup> (respirable particulate, not otherwise regulated)

**Respirable Crystalline Silica (quartz):** TLV = 0.05 mg/m<sup>3</sup>; PEL = 10 mg/m<sup>3</sup> ÷ (% SiO<sub>2</sub> + 2); Proposed PEL = 0.1 mg/m<sup>3</sup>

**Respirable Dust:** PEL = 10 mg/m<sup>3</sup> ÷ (% SiO<sub>2</sub> + 2)

**Total Dust:** PEL = 30 mg/m<sup>3</sup> ÷ (% SiO<sub>2</sub> + 2)

**Ammonia (NH<sub>3</sub>):** TLV = 25 ppm; TLV-STEL = 35 ppm; PEL = 50 ppm; Proposed PEL-STEL = 35 ppm

**Carbon Monoxide (CO):** TLV = 25 ppm; PEL = 50 ppm; Proposed PEL = 35 ppm; Proposed PEL Ceiling = 200 ppm

**Hydrogen Sulfide (H<sub>2</sub>S):** TLV = 10 ppm; TLV-STEL = 15 ppm; PEL Ceiling = 20 ppm; Proposed PEL = 10 ppm; Proposed PEL-STEL = 15 ppm

**Nitrogen Dioxide (NO<sub>2</sub>):** TLV = 3 ppm; TLV-STEL = 5 ppm; PEL Ceiling = 5 ppm; Proposed PEL-STEL = 1 ppm

**Ozone (O<sub>3</sub>):** TLV Ceiling = 0.1 ppm; PEL = 0.1 ppm; Proposed PEL = 0.1 ppm; Proposed PEL-STEL = 0.3 ppm

**Sulfur Dioxide (SO<sub>2</sub>):** TLV = 2 ppm; TLV-STEL = 5 ppm; PEL = 5 ppm; Proposed PEL = 2 ppm; Proposed PEL-STEL = 5 ppm

ACGIH and OSHA have determined that adverse effects are not likely to occur in the workplace provided exposure levels do not exceed the appropriate TLVs/PELs. However, because of the wide variation in individual susceptibility; lower exposure limits may be appropriate for some individuals including persons with pre-existing medical conditions.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Attention:** The data below are typical values and do not constitute a specification.

**Appearance:** Black, granular

**Odor:** Petroleum odor

**pH:** NA

**Vapor Pressure:** NDA

**Vapor Density (Air = 1):** >1

**Boiling Point:** >470°C

**Solubility:** Negligible

**Melting Point:** 100 - 135°F

**Specific Gravity:** 2.0 - 2.5

**Viscosity:** NA

## SECTION 10. STABILITY AND REACTIVITY

---

**Chemical Stability** Stable

**Incompatibility With Other Materials** Strong oxidizers may react with hydrocarbons. Contact with fluorine may cause burning or explosion. Adding water to hot asphalt presents an explosion hazard.

**Hazardous Decomposition Products** Carbon monoxide and other compounds (such as amines, nitrogen dioxide, sulfur dioxide, ozone, hydrogen sulfide, and various hydrocarbons) may be released by thermal decomposition. Hazardous vapors may collect in enclosed vessels or areas if not properly ventilated. If hydrogen sulfide is present, the flammable limits can be from 4.3% to 45.5% by volume and its presence may promote the formation of pyrophoric (spontaneously igniting) iron compounds (See 29 CFR 1910.146).

**Hazardous Polymerization** Hazard polymerization will not occur.

**Conditions to Avoid:** Avoid contact with incompatible materials (see above).

## SECTION 11. TOXICOLOGICAL INFORMATION

---

There is concern about the carcinogenicity of chemical compounds found in asphalts. The International Agency for Research on Cancer (IARC) reviewed the carcinogenic potential of asphalts in 1985 and again in 1987. At that time, they concluded there was inadequate evidence to decide that asphalts were carcinogenic to humans. Overall, findings from health monitoring studies of asphalt workers are not conclusive. However, asphalt fume condensates and certain chemical components of asphalt fume have been shown to cause cancer in mice when repeatedly applied to the skin and allowed to remain on the skin for a prolonged period of time. In addition, asphalt fume condensates have been shown to be weakly positive in Ames mutagenicity tests. Skin contact and breathing of fumes, mists and vapors should be reduced to a minimum.

## SECTION 12. ECOLOGICAL INFORMATION

---

### ECOTOXICITY

No specific data on this product. Not expected to harmful to aquatic organisms.

### ENVIRONMENTAL FATE

This material is not expected to present an environmental problem.

## SECTION 13. DISPOSAL CONSIDERATIONS

---

Dispose in accordance with all applicable federal, state and local laws and regulations.

## SECTION 14. TRANSPORT INFORMATION

---

**The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside the United States.**

**DOT Shipping Name:** If the shipping temperature of a solid equals or exceeds 464°F, D.O.T. regulations classify the solid as an "Elevated Temperature Liquid," and a "HOT" label is required. Label according to the OSHA Hazard Communication Standard [29 CFR 1910.1200 (f)] and applicable state and local laws and regulations.

**DOT Hazard Class:** None

**DOT Identification Number:** NA

**Placard:** None required.

**DOT Packing Group:** NA

**Emergency Response Guide No.:** NA

## **SECTION 15. REGULATORY INFORMATION**

---

### **CHEMICAL INVENTORIES:**

All of the components of this material are on the Toxic Substances Control Act (TSCA) Chemical Inventory

## **SECTION 16. ADDITIONAL INFORMATION**

---

### **Scale For NFPA and HMIS Ratings:**

0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:-Personal Protective Equipment Index Recommendation, \*-Chronic Effect Indicator. These values are obtained using the guidelines or published evaluations prepared by the National Fire Protections Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

### **ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value

TWA - Time Weighted Average

STEL - Short-term Exposure Limit

REL/PEL - Recommended/Permissible Exposure Limit

NA - Not Applicable

CAS - Chemical Abstract Service Number

NDA - No Data Available

NE - Not Established

**THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED REGARDING ITS CORRECTNESS. SOME INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE SUBSTANCE ITSELF. THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION OR PRODUCTS FOR THEIR PARTICULAR PURPOSE.**

**THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE, AND DISPOSAL OR THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE, OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.**