

Hot Mix Asphalt

SAFETY DATA SHEET

OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier	Hot Mix Asphalt
Chemical Name	Mixture
CAS No.	Mixture
Trade Name(s)	Petroleum Asphalt / Road Paving Asphalt / Blacktop / Bitumen / Warm Mix Asphalt
Relevant identified uses of the substance or mixture and uses advised against	
Identified Use(s)	Hot Paving Asphalt
Uses Advised Against	None.
Details of the supplier of the safety data sheet	
Company Identification	Allan Myers 638 Lancaster Avenue Malvern, PA 19355
Telephone	(610) 560-7900
Emergency telephone number	
Emergency Phone No.	Not classified as dangerous for supply/use. Please contact the supplier above during normal business hours.

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture	
OSHA HCS (29 CFR 1910.1200) / GHS Classification	Not classified as dangerous for supply/use.
Label elements	
Hazard Symbol	None
Signal Word(s)	None
Hazard Statement(s)	None
Precautionary Statement(s)	None
Other hazards	May cause eye irritation. Prolonged exposure to fumes without adequate ventilation may cause upper respiratory irritation (nose & throat) . Skin contact may increase susceptibility to sunburn. Poisonous hydrogen sulfide gas can accumulate in the head-space of containers of certain asphalt products. Mechanical disruption (e.g., milling, cutting, chipping) of cured asphalt pavement may release crystalline silica dust from the aggregate.
Additional Information	Avoid prolonged exposure to (dust/fume/gas/mist/vapors/spray) without adequate ventilation. As necessary, wear protective gloves/protective clothing/eye protection/face protection. Wash hands and exposed skin after use.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Composition/information on ingredients	% wt.	CAS No.
Aggregate (crushed stone, sand, gravel, slag)	70 - 97	Various

Hot Mix Asphalt

Petroleum asphalt / bitumen [^]	3 - 7	8052-42-4
Reclaimed Asphalt Pavement (RAP)	0 - 25	Mixture
Reclaimed Asphalt Shingles (RAS)	0 - 10	Mixture
Polymers and Natural Rubbers	< 0.5	Various
Process oils (inherent in refined petroleum asphalt)	< 0.1	Various
Anti-strip or other amine-based additives	< 0.1	Various
Warm-mix additives	< 0.1	Various

[^]Contains: <0.05% of 3 - 7 ring Polycyclic Aromatic Hydrocarbons (PAHs).

Other Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below. Please see Section 8 of SDS for more details.

- Contains: <0.1% airborne crystalline silica (inherent in aggregate) and <0.1% hydrogen sulfide.
- Hydrogen sulfide gas can accumulate in the head space of containers of certain asphalt products.
- Heated product releases asphalt fume.

Additional Information - None

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation	Not normally required. Move person to fresh air. Apply artificial respiration if necessary. If symptoms persist, obtain medical attention.
Skin Contact	Causes burns. Immediately cool skin where asphalt binder has adhered to skin. Allow asphalt binder which remains on the skin to fall off naturally. DO NOT REMOVE. If problem persists or coverage is extensive, get medical attention.
Eye Contact	Flush eyes with water for at least 15 minutes while holding eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation develops and persists, get medical attention.
Ingestion	Not normally required. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
Most important symptoms and effects, both acute and delayed	None known
Indication of any immediate medical attention and special treatment needed	None known

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

-Suitable Extinguishing Media	Extinguish with carbon dioxide, dry chemical, or foam.
-Unsuitable Extinguishing Media	None anticipated.

Special hazards arising from the substance or mixture

Combustion causes toxic fumes. Combustion products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides

Flash Point

>232 °C (>450 °F)

Advice for fire-fighters

A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Environmental precautions

Not normally required.

Methods and material for containment and cleaning up

Allow product to cool/solidify and pick up as a solid.

Reference to other sections

None

Additional Information

None.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes.

Poisonous hydrogen sulfide gas can accumulate in the head-space of containers of certain asphalt products.

Conditions for safe storage, including any incompatibilities

-Storage temperature

Store at temperatures not exceeding the product's flash point (>232 °C).

-Incompatible materials

Strong oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

SUBSTANCE.	CAS No.	(8hr TWA)		(STEL)		Note:
		PEL (OSHA) *	TLV (ACGIH)	PEL (OSHA)	TLV (ACGIH)	
Asphalt fume	-----	-----	0.5 mg/m ³ ⁽¹⁾	-----	-----	See below
Crystalline Silica (respirable particulate)	-----	0.050 mg/m ³ ^(R) *	0.025 mg/m ³ ^	-----	-----	See below
Hydrogen sulfide	7783-06-4	-----	1 ppm	20 ppm ceiling	5 ppm	50 ppm peak

⁽¹⁾ Inhalable benzene-soluble fraction; ^(R) Respirable fraction; ^ Suspected Human Carcinogen; * OSHA Carcinogen - employers must ensure compliance with OSHA 29 CFR 1926.1153 - Respirable Crystalline Silica, as applicable.; TWA = 8 hour time-weighted average; STEL = Short Term Exposure Limit.

Recommended monitoring method

NIOSH 5042 (Asphalt Fume), OSHA ID-142 (Crystalline Silica), Electrochemical sensor (hydrogen sulfide).

Exposure controls

Appropriate engineering controls

Use only outdoors or in a well-ventilated area.

Personal protection equipment

Eye/face protection

Wear eye protection meeting current ANSI Z87.1 standards.



Skin protection (Hand protection/ Other)

Wear hand protection meeting current ANSI/ISEA 105 standards.



Hot Mix Asphalt

Respiratory protection



In case of inadequate ventilation wear respiratory protection. Use NIOSH approved respiratory protection. Air-purifying respirator with combination organic vapor cartridge / particulate filter may be sufficient. Check with protective equipment manufacturer's data.

Thermal hazards

Use gloves with insulation for thermal protection, when needed.

Environmental Exposure Controls

Do not discharge waste and/or cleaning water via public sewer system. Ensure waste is collected and contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid
Color.	Dark brown / Black
Odor	Asphalt / Bitumen
Odor Threshold (ppm)	Not available.
pH (Value)	Not available.
Melting Point (°C) / Freezing Point (°C)	Not available.
Boiling point/boiling range (°C):	> 371 (>700 °F)
Flash Point (°C)	> 232 (> 450 °F)
Evaporation Rate	Not available.
Flammability (solid, gas)	Not applicable.
Explosive Limit Ranges	Not applicable.
Vapor pressure (Pascal)	Not determined.
Vapor Density (Air=1)	Not determined.
Density (g/ml)	2.2 - 2.7
Solubility (Water)	Negligible
Solubility (Other)	Not known
Partition Coefficient (n-Octanol/water)	Not available.
Auto Ignition Point (°C)	Not available.
Decomposition Temperature (°C)	Not available.
Kinematic Viscosity (cSt) @ 40°C	Not available
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

Other information

Not available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable.
Possibility of hazardous reactions	May react violently with: Strong oxidizing agents
Conditions to avoid	Incompatible materials
Incompatible materials	Oxidizers
Hazardous decomposition product(s)	Combustion causes toxic fumes. Combustion products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin Contact, Eye Contact

Information on toxicological effects

Acute toxicity	LD50 (rat): >5000 mg/kg bw LD50 (dermal): >2000 mg/kg bw LC50 (inhalation, fume): >94.4 mg/m ³
Irritation/Corrosivity	May cause irritation to skin, eyes and respiratory system.
Sensitization	Not to be expected

Hot Mix Asphalt

Repeated dose toxicity

NOAEL(rat): 28 mg/m³

LOAEL (rat): 149 mg/m³

Carcinogenicity

Not to be expected at typical road paving temperatures.

NTP	IARC	ACGIH	OSHA
No.	Yes.*	No.	No.

Mutagenicity

Not to be expected.

Reproductive toxicity

Not to be expected.

Other information * IARC (2013, volume 103) identifies that "occupational exposures to straight-run bitumens and their emissions during road paving are possibly carcinogenic to humans (Group 2B)." However, classification as a carcinogen under OSHA 29 CFR 1910.1200 is not warranted given the absence of positive cancer findings in human epidemiological studies and in cancer studies with laboratory animals when exposed dermally or by inhalation to asphalt products or fume condensates that are typical of road paving applications. IARC (2013, volume 103) also identifies that "occupational exposures to oxidized bitumens and their emissions during roofing are probably carcinogenic to humans (Group 2A)." Roofing shingles, which are considered an article under OSHA 29 CFR 1910.1200, are sometimes recycled into road paving asphalt mix. Emissions from oxidized bitumen, e.g., from shingles, at road paving temperatures are not expected to be qualitatively different than emissions from straight-run bitumens, and therefore would not warrant a carcinogen classification under OSHA 29 CFR 1910.1200. Contains crystalline silica, an OSHA-regulated carcinogen, inherent in the aggregate. ACGIH classifies crystalline silica as a *Suspected Human Carcinogen* (A2).

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Short term

LL50 (48 hour): >1000 mg/l (Fish)

LL50 (48 hour): >1000 mg/L (Aquatic Invertebrates)

EL50 (48 hour): >1000 mg/L (Aquatic Plants)

Long Term

No data

Persistence and degradability

The product is poorly biodegradable.

Bioaccumulative potential

The product has low potential for bioaccumulation.

Mobility in soil

The product has low mobility in soil.

Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal should be in accordance with local, state or national legislation. Consult this asphalt producer, permitted waste disposal contractor or the local authority for advice on waste disposal or recycling options. Recycling of this material should be maximized.

Additional Information

None known.

SECTION 14: TRANSPORT INFORMATION

Ground or Water Domestic Voyage (DOT): Not regulated when transported below 240°C (464 °F).

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:

TSCA (Toxic Substance Control Act) - Inventory Status: All components listed and active, or exempt.

RCRA Hazardous Waste Number (40 CFR 261.33): None

US RCRA Hazard Class: Not applicable.

Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4):

Hot Mix Asphalt

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)
None	-----	-----	-----

SARA 311/312 - Hazard Categories: See SECTION 2 - HAZARDS IDENTIFICATION

SARA 313 - Toxic Chemicals (40 CFR 372):

Chemical Name	CAS No.	Typical %wt.
None	-----	-----

SARA 302 - Extremely Hazardous Substances(40 CFR 355):

Chemical Name	CAS No.	Typical %wt.	TPQ (pounds)
None	-----	-----	-----

SECTION 16: OTHER INFORMATION

Additional Information

The following sections contain revisions or new statements: 1-16

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. The manufacturer gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. The manufacturer accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.