



HOT MIX ASPHALT

SAFETY DATA SHEET

OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Chemical Name Hot Mix Asphalt
CAS No. Mixture
Trade Name(s) Petroleum Asphalt / Road Paving Asphalt / Hot Mix Asphalt / Blacktop / Bitumen / Warm Mix Asphalt

Relevant identified uses of the substance or mixture and uses advised against
Identified Use(s) Road Paving Asphalt
Uses Advised Against None.

Details of the supplier of the safety data sheet
Company Identification Dunn Construction Company, Inc.
3905 Messer Airport Hwy.
Birmingham, AL 35222
Telephone 205-592-3866

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
Contact with hot liquid causes skin burns.
Molten material can cause severe burns.
May cause eye irritation.
Fumes 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 breathing dust/fume/gas/mist/vapors/spray.
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
Petroluem 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	Gently wash with plenty of soap and water. If irritation (redness, rash, blistering) develops, 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, foam or water spray. |
| -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

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.
Conditions for safe storage, including any incompatibilities	
-Storage temperature	Store at temperatures not exceeding the product's flash point.
-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/m3 ⁽¹⁾	-----	-----	See below
Crystalline Silica (respirable particulate)	-----	$\frac{10 \text{ mg/m}^3}{\% \text{SiO}_2 + 2}$	0.025 mg/m3 ^	-----	-----	See below
Hydrogen sulfide	7783-06-4	-----	1 ppm	20 ppm ceiling	5 ppm	50 ppm peak

⁽¹⁾ Inhalable benzene-soluble fraction; ^Suspected Human Carcinogen; *Refer to OSHA 29 CFR 1910.1000 & 29 CFR 1926.55; 8hr TWA = 8 hour time-weighted average; STEL = Short Term Exposure Limit.

Recommended monitoring method NIOSH 5042 (Asphalt Fume), NIOSH 7500 (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



The following to be used as necessary: Safety Glasses

Skin protection (Hand protection/ Other)



The following to be used as necessary: Leather or thick textile gloves.

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
Repeated dose toxicity	NOAEL(rat): 28 mg/m ³ LOAEL (rat): 149 mg/m ³
Carcinogenicity	Not to be expected at typical road paving temperatures.

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



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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.

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 an accredited waste disposal contractor or the local authority for advice.

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 or polymer 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):

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

SARA 311/312 - Hazard Categories: None

Fire Sudden Release Reactivity Immediate (acute) Chronic (delayed)

SARA 313 - Toxic Chemicals (40 CFR 372):

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



HOT MIX ASPHALT

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.

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