

Material Safety Data Sheet

Section 1: PRODUCT AND COMPANY INFORMATION

Product Name(s): Lafarge Hot Mix Asphalt (HMA)

Product Identifiers: Lafarge Hot Mix Asphalt, HMA, Hot Mix Asphalt Concrete (HMAC), Blacktop, Tarmac, Hot Mix Paving Material, Hot Laid Asphaltic Cement, Bituminous Concrete, SuperPave Mixes, DuraPhalt™, DuraPhalt™ HM, DuraWay™, DuraTough™, DuraPlay™, DuraTint™, DuraWhisper™, DuraCycle™, DuraClime™, Dense Friction Course (DFC), Heavy Duty Binder Course (HDBC), Medium Duty Binder Course (MDBC), Open Friction Course (OFC), Stone Matrix Asphalt (SMA).

Manufacturer: Lafarge North America Inc.
12018 Sunrise Valley Drive, Suite 500
Reston, VA 20191

Information Telephone Number: 703-480-3600 (9am to 5pm EST)

Emergency Telephone Number: 1-800-451-8346 (3E Hotline)

Product Use: HMA is used for paving roads, driveways, parking lots and other surface, base, or sub-base applications.




Note: This MSDS covers many types of HMA. Individual composition of hazardous constituents will vary between types of asphalt.

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	Percent (By Weight)	CAS Number	OSHA PEL -TWA (mg/m ³)	ACGIH TLV-TWA (mg/m ³)	LD ₅₀ (rat, oral)	LC ₅₀
Aggregate	90-95	Various	NA	NA	NA	NA
Asphalt Cement (as Fume)	< 10	8052-42-4	NA	0.5 (I)	NA	NA
Crystalline Silica (as Quartz)	varies	14808-60-7	[(10) / (%SiO ₂ +2)] (R); [(30) / (%SiO ₂ +2)] (T)	0.025 (R)	NA	NA

Note: HMA is a mixture of gravel or rock, sand and asphalt cement. It may also contain small amounts of asphalt modifiers (e.g. anti-stripping agents, hydrated lime), RAP, fly ash, slag, fibers (synthetic or organic), color pigment and other recycled material (e.g. ceramics, plastic, glass, etc.).

Section 3: HAZARD IDENTIFICATION

WARNING		
	<p>Hot product can cause burns.</p> <p>Toxic - Harmful by inhalation. Hot Product can release Hydrogen Sulfide gas; Product contains crystalline silica.</p> <p>Irritant: Causes eye, skin and inhalation irritation.</p> <p>Use proper engineering controls, work practices, and personal protective equipment.</p> <p>Read MSDS for details.</p>	 Eye Protection  Gloves

Section 3: HAZARD IDENTIFICATION (continued)

Emergency Overview: HMA is a black colored granular solid that has a petroleum odor. Hot product will cause severe thermal burns. If burned by hot product, cool affected area immediately with cool water. Do not attempt to remove solidified material from skin. Seek medical attention. When heated, this product may release toxic hydrogen sulfide (H₂S). Prolonged or repeated skin contact can cause drying of the skin which may produce irritation or dermatitis.

Potential Health Effects:

Eye Contact: Hot product will cause severe thermal burns. Eye contact with HMA fumes can cause moderate eye irritation, redness, and itching. Airborne dust may cause immediate or delayed irritation or inflammation. Eye exposures require immediate first aid to prevent damage to the eye.

Skin Contact: Direct contact with HMA will cause severe thermal burns. Repeated or prolonged contact to HMA may cause dry skin, discomfort, irritation, itching and dermatitis.

Inhalation (acute): Hot HMA releases irritating fumes or vapors such as smoke, carbon dioxide, carbon monoxide, unburned hydrocarbons. Hydrogen sulfide and other sulfur-containing gases can evolve from this product at elevated temperatures. Exposure to fumes or vapors may cause irritation of the nose and throat, and symptoms such as headache, dizziness, loss of coordination, and drowsiness. Cutting, crushing or grinding hardened asphalt will release dust. Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure.

Inhalation (chronic): Risk of injury depends on duration and level of exposure.

Silicosis: This product contains trace amounts of crystalline silica. Under normal use and application HMA does not release crystalline silica. However, cutting, crushing or grinding hardened asphalt or other crystalline silica-bearing materials will release respirable crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease.

Carcinogenicity: HMA is not listed as a carcinogen by IARC or NTP; however, HMA contains trace amounts of crystalline silica that is classified by IARC and NTP as known human carcinogen.

Ingestion: Do not chew or ingest HMA. Hot product will cause thermal burns. Ingestion may result in nausea, vomiting, diarrhea and restlessness. Chewing asphalt has caused gastrointestinal effects. Stomach obstructions have been reported in individuals who have chewed and swallowed asphalt.

Medical Conditions

Aggravated by Exposure: Individuals with preexisting skin conditions can be aggravated by exposure.

Section 4: FIRST AID MEASURES

Eye Contact:	For contact with hot material, flush with large amounts of cool water for at least 15 minutes. Immediately call a physician. For contact with cold material or dust, rinse eyes thoroughly with water for at least 15 minutes, including under lids, to remove all particles. Seek medical attention for abrasions.
Skin Contact:	Wash with cool water and a pH neutral soap or a mild skin detergent. Do not use solvents or thinners to remove material from skin. Seek medical attention for burns, rash, irritation, and dermatitis. For contact with hot material, immerse or flush skin with cold water for at least 15 minutes. Call a physician. Do not attempt to remove solidified material, since removal may cause further tissue injury.
Inhalation:	Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.
Ingestion:	Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention or contact poison control center immediately.

Section 5: FIREFIGHTING MEASURES

Flashpoint & Method:	> 200°F (93.3°C)	Firefighting Equipment:	A SCBA is recommended to limit exposures to combustion products when fighting any fire.
General Hazard:	Combustible solid. Avoid breathing fumes.	Combustion Products:	Toxic gases produced in fire, such as CO, CO ₂ , and H ₂ S.
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire.	Auto-ignition Temperature:	NA
Upper/Lower Flammable Limit:	NA		

Section 6: ACCIDENTAL RELEASE MEASURES

General:	Use a shovel to scrape up material and place material into suitable containers for recovery or disposal. Do not wash HMA down sewage and drainage systems or into bodies of water (e.g. streams). Wear appropriate protective equipment as described in Section 8.
Waste Disposal Method:	Dispose of HMA according to Federal, State, Provincial and Local regulations.

Section 7: HANDLING AND STORAGE

General:	Handle with care and use appropriate control measures. Avoid contact with skin, eyes and clothing. Use additional precautions when handling hot material. Maintain employee exposure levels below established regulatory limits. Do not allow hot material to contact skin. Use all appropriate Personal Protective Equipment (PPE) described in Section 8 below.
Usage:	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 below. Concentrations of hydrogen sulfide (H ₂ S) can be generated and accumulate in storage tanks and bulk transport compartments which may require additional precautions and procedures during loading and unloading.

Section 7: HANDLING AND STORAGE (continued)

- Storage:** Do not expose to open flames, strong oxidizers or other source of ignition.
- Clothing:** Remove and launder clothing that is soiled with asphalt. Thoroughly wash hands and exposed skin after exposure to HMA.

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

- Engineering Controls:** Use local exhaust or general dilution ventilation when using at elevated temperatures or during activities that generate dust or fumes, to maintain levels below exposure limits.

Personal Protective Equipment (PPE):

- Respiratory Protection:** Under ordinary conditions no respiratory protection is required. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust or fumes above exposure limits.
- Eye Protection:** Wear ANSI approved glasses, safety goggles, or face shield when handling HMA to prevent contact with eyes.
- Skin Protection:** Wear leather or cloth work gloves to prevent skin contact and insulated gloves when handling hot material. Thoroughly wash hands and other exposed skin after exposure to HMA.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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|--------------------------|------------------------|-----------------------------|-----------|
| Physical State: | Granular solid. | Evaporation Rate: | NA. |
| Appearance: | Black solid. | pH (in water): | NA. |
| Odor: | Slight petroleum odor. | Boiling Point: | NA. |
| Vapor Pressure: | NA. | Freezing Point: | NA. |
| Vapor Density: | NA. | Viscosity: | NA. |
| Specific Gravity: | 2.0-2.5 | Solubility in Water: | Insoluble |

Section 10: STABILITY AND REACTIVITY

- Stability:** Stable. Avoid contact with incompatible materials, excessive heat, sources of ignition and open flame.
- Incompatibility:** HMA is incompatible with strong acids or bases, and oxidizing agents such as nitrates, chlorates and peroxides.
- Hazardous Polymerization:** None.
- Hazardous Decomposition:** When heated may liberate hydrogen sulfide and various hydrocarbons.

Section 11 and 12: TOXICOLOGICAL AND ECOLOGICAL INFORMATION

For questions regarding toxicological and 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.

Section 14: TRANSPORT INFORMATION

This product is not classified as a Hazardous Material under U.S. DOT or Canadian TDG regulations.

Section 15: REGULATORY INFORMATION

- OSHA/MSHA Hazard Communication:** This product is considered by OSHA/MSHA to be a hazardous chemical and should be included in the employer's hazard communication program.
- CERCLA/SUPERFUND:** This product is not listed as a CERCLA hazardous substance.
- EPCRA SARA Title III:** This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered to be an acute health hazard (irritation).
- EPRCA SARA Section 313:** This product contains none of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
- RCRA:** If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.
- TSCA:** This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.
- California Proposition 65:** Crystalline silica (airborne particulates of respirable size) is known by the State of California to cause cancer.
- WHMIS/DSL:** Products containing crystalline silica are classified as D2A and are subject to WHMIS requirements.



Section 16: OTHER INFORMATION
Abbreviations:

>	Greater than	NA	Not Applicable
ACGIH	American Conference of Governmental Industrial Hygienists	NFPA	National Fire Protection Association
CAS No	Chemical Abstract Service number	NIOSH	National Institute for Occupational Safety and Health
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	NTP	National Toxicology Program
		OSHA	Occupational Safety and Health Administration
CFR	Code for Federal Regulations	PEL	Permissible Exposure Limit
CL	Ceiling Limit	pH	Negative log of hydrogen ion
DOT	U.S. Department of Transportation	PPE	Personal Protective Equipment
EST	Eastern Standard Time	R	Respirable Particulate
HEPA	High-Efficiency Particulate Air	RCRA	Resource Conservation and Recovery Act
HMIS	Hazardous Materials Identification System	SARA	Superfund Amendments and Reauthorization Act
IARC	International Agency for Research on Cancer	SCBA	Self-Contained Breathing Apparatus
		T	Total Particulate
		TDG	Transportation of Dangerous Goods
LC ₅₀	Lethal Concentration	TLV	Threshold Limit Value
LD ₅₀	Lethal Dose	TWA	Time Weighted Average (8 hour)
mg/m ³	Milligrams per cubic meter	WHMIS	Workplace Hazardous Materials Information System
MSHA	Mine Safety and Health Administration		

This MSDS (Sections 1-16) was revised on March 1, 2011.

An electronic version of this MSDS is available at: www.lafarge-na.com under the Sustainability section.

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