

Material Safety Data Sheet

Section 1: PRODUCT AND COMPANY INFORMATION

Product Name(s): Manufactured Shingle Modifier (MSM™)

Product Identifiers: Manufactured Shingle Modifier, MSM™

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: MSM™ is used as a modifier for hot mix asphalt.





Note: Individual composition of hazardous constituents of MSM™ will vary based on differences in feedstock.

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 (rat, inhalation) |
|-------------------------------------|---------------------|------------|--|------------------------------------|------------------------------|------------------------------------|
| Calcium Carbonate* | 8-40 | 1317-65-3 | 15 (T), 5 (R) | 3 (R); 10 (T) | NA | NA |
| Magnesium Carbonate* | 8-40 | 546-93-0 | 15 (T); 5 (R) | 3 (R); 10 (T) | NA | NA |
| Asphalt Cement (Fume) | 20-35 | 8052-42-4 | NA | 0.5 (I) | NA | NA |
| Cellulose | 0-20 | 9004-34-6 | 15 (T); 5 (R) | 10 (T) | > 5 g/kg | > 5800 mg/m ³ /4H |
| Fiberglass | 0-15 | 65997-17-3 | NA | 5 (I) | NA | NA |
| Crystalline Silica | 0-10 | 14808-60-7 | [(10) / (%SiO ₂ +2)] (R); [(30) / (%SiO ₂ +2)] (T) | 0.025 (R) | NA | NA |
| Particulate Not Otherwise Regulated | - | NA | 5 (R) 15 (T) | 3 (R); 10 (T) | NA | NA |

Note: Exposure limits for components noted with an * contain no asbestos and <1% crystalline silica

Section 3: HAZARD IDENTIFICATION

| WARNING | |
|---|--|
|  | <p style="text-align: center;">Toxic - Harmful by inhalation. (Contains crystalline silica)</p> <p style="text-align: center;">Irritant: Causes eye, skin and inhalation irritation</p> <p style="text-align: center;">Use proper engineering controls, work practices, and personal protective equipment to prevent exposure to wet or dry product.</p> <p style="text-align: center;">Read MSDS for details.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Respiratory Protection </div> <div style="text-align: center;">  Eye Protection </div> </div> <div style="text-align: center; margin-top: 10px;">  Gloves </div> |

Emergency Overview: MSM™ is a solid material produced by shredding up pre-consumer roofing shingle material ranging in size of 1/2 to 3/8 inches. Roofing shingles consist of a reinforcing mat consisting of fiberglass mat or organic felt (cellulose) which is coated with asphalt cement and imbedded with mineral granules. A single, short-term exposure to MSM™ presents little or no hazard.

Section 3: HAZARD IDENTIFICATION (continued)

Potential Health Effects:

Eye Contact: Airborne particles may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of MSM™ can cause moderate eye irritation, redness, and itching. Eye exposures require immediate first aid to prevent damage to the eye.

Skin Contact: MSM™ may cause dry skin, discomfort, irritation, and irritant contact dermatitis. Repeated contact may cause skin irritation due to roughness of product.

Dermatitis: MSM™ is capable of causing irritant contact dermatitis. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking.

Inhalation (acute): Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure.

When this product is subject to high heat or burning MSM™ may release irritating fumes or vapors such as smoke, carbon dioxide, carbon monoxide, unburned hydrocarbons, ammonia and trace oxides of sulfur and nitrogen. Hydrogen sulfide and other sulfur-containing gases can evolve from this product at elevated temperatures. Exposure to fumes, vapors or mists may cause irritation of the nose and throat, and symptoms such as headache, dizziness, loss of coordination, and drowsiness.

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

Silicosis: This product contains trace amounts of crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease.

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

Ingestion: Do not ingest MSM™. Although ingestion of small quantities of MSM™ is not known to be harmful, ingestion of large quantities can cause an obstruction causing pain and distress in the digestive tract.

Medical Conditions Aggravated by Exposure: Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) can be aggravated by exposure.

Section 4: FIRST AID MEASURES

Eye Contact: 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 rash, irritation, and dermatitis.

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

| | | | |
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| Flashpoint & Method: | Combustible. | Firefighting Equipment: | A SCBA is recommended to limit exposures to combustion products when fighting any fire. |
| General Hazard: | Avoid breathing fumes. | | |
| Extinguishing Media: | Use extinguishing media appropriate for surrounding fire. | Combustion Products: | Toxic gases produced in fire, such as H ₂ S. |

Section 6: ACCIDENTAL RELEASE MEASURES

| | |
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| General: | Place spilled material into a container. Avoid actions that cause the MSM™ to become airborne. Avoid inhalation of MSM™ and contact with skin. Wear appropriate protective equipment as described in Section 8. |
| Waste Disposal Method: | Dispose of MSM™ according to Federal, State, Provincial and Local regulations. |

Section 7: HANDLING AND STORAGE

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| General: | <p>Handle with care and use appropriate control measures. Keep bulk MSM™ dry until used.</p> <p>Engulfment hazard. To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains MSM™. MSM™ can buildup or adhere to the walls of a confined space. The MSM™ can release, collapse or fall unexpectedly.</p> <p>Do not stand on stockpiles of MSM™, they may be unstable. Use engineering controls to prevent windblown dust from stockpiles, which may cause the hazards described in Section 3.</p> |
| Usage: | Cutting, crushing, or grinding MSM™ or other crystalline silica-bearing materials will release fiberglass and respirable crystalline silica. Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE) described in Section 8 below. |
| Housekeeping: | Avoid actions that cause the MSM™ to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8 below. |
| Storage Temperature: | Store away from heat and all ignition sources and open flames. |
| Storage Pressure: | Unlimited. |
| Clothing: | Remove and launder clothing that is dusty with MSM™. Clothing that is exposed to fiberglass should be washed separately from other clothes, and the washer should be rinsed thoroughly to reduce the chances of fiberglass being transferred to other clothing. Thoroughly wash skin after exposure to MSM™. |

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls: Use local exhaust or general dilution ventilation or other suppression methods to maintain dust 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 above exposure limits.

Eye Protection: Wear ANSI approved glasses or safety goggles when handling MSM™ to prevent contact with eyes. Wearing contact lenses when using MSM™, under dusty conditions, is not recommended.

Skin Protection: Wear gloves to prevent skin contact. Remove and launder clothing that is dusty with MSM™. Thoroughly wash skin after exposure to MSM™.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------|------------------------------------|-----------------------------|--------------|
| Physical State: | Solid. | Evaporation Rate: | NA. |
| Appearance: | Dark pieces with granular surface. | pH (in water): | NA. |
| Odor: | Slight petroleum odor. | Boiling Point: | NA. |
| Vapor Pressure: | NA. | Freezing Point: | None, solid. |
| Vapor Density: | NA. | Viscosity: | None, solid. |
| Specific Gravity: | NA. | Solubility in Water: | Insoluble |

Section 10: STABILITY AND REACTIVITY

Stability: Stable. Keep dry until use. Avoid contact with incompatible materials.

Incompatibility: MSM™ is incompatible with strong acids or bases, and oxidizing agents.

Hazardous Polymerization: None.

Hazardous Decomposition: Decomposes to carbon monoxide, carbon dioxide, hydrogen sulfide, trace oxides of sulfur and nitrogen, 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

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| 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 a hazardous chemical and a delayed health hazard. |
| 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: | MSM™ and crystalline silica are exempt from reporting under the inventory update rule. |
| 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 and calcium carbonate are classified as D2A, E 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 | | |

Section 16: OTHER INFORMATION (continued)

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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