

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Manufactured Shingle Modifier (MSM™)

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

1.2. Intended Use of the Product

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

1.3. Name, Address, and Telephone of the Responsible Party

Company

Holcim US

8700 West Bryn Mawr Avenue, Suite 300

Chicago, IL 60631

Information: (888) 646-5246 (9am to 5pm CST)

Email: us-sds-inquiries@holcim.com

Website: holcim.us

1.4. Emergency Telephone Number

Emergency Number : ChemTel LLC

1-800-255-3924 (US and Canada)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Carc. 1A H350

STOT RE 1 H372

Comb. Dust

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :



GHS08

Signal Word (GHS-US/CA) :

Danger

Hazard Statements (GHS-US/CA) :

May form combustible dust concentrations in air.

H350 - May cause cancer (Inhalation).

H372 - Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (Inhalation).

Precautionary Statements (GHS-US/CA) :

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P260 - Do not breathe dust.

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P280 - Wear protective gloves, protective clothing, and eye protection.

P308+P313 - If exposed or concerned: Get medical advice/attention.

P314 - Get medical advice/attention if you feel unwell.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Supplemental Information :

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

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smoking. Proper grounding procedures to avoid static electricity should be followed.
Prevent dust accumulation (to minimize explosion hazard). Avoid generating dust.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Hot asphalt can release toxic Hydrogen Sulfide gas! Hydrogen Sulfide can accumulate in vapor space of tanks and vessels during transfer and storage of this material. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Synonyms	Product Identifier	% *	GHS Ingredient Classification
Carbonic acid, magnesium salt (1:1)	Magnesium carbonate / C.I. 77713 / Carbonate, magnesium / magnesite	(CAS-No.) 546-93-0	8 – 40	Not classified
Limestone	Chalk / Limestone (A noncombustible solid characteristic of sedimentary rock. It consists primarily of calcium carbonate.) / Natural calcium carbonate / Marble / Calcium carbonate / Limestone (sedimentary rock) / Calcite / Limestone ground / Acetate, 4-methyl-2-propyl-2H-tetrahydropyran-4-yl / Ground limestone	(CAS-No.) 1317-65-3	8 – 40	Not classified
Asphalt	Asphalt (petroleum) / Bitumens / Bitumen / Bituminous asphalt / Bitumens, asphalt / Hydrocarbon resin / Asphalt (A very complex combination of high molecular weight organic compounds containing a relatively high proportion of hydrocarbons having carbon numbers predominantly greater than C25 with high carbon-to-hydrogen ratios. It also contains small amounts of various metals such as nickel, iron, or vanadium. It is obtained as the non-volatile residue from distillation of crude oil or by separation as the raffinate from a residual oil in a deasphalting or decarbonization process.)	(CAS-No.) 8052-42-4	20 – 35	Carc. 2, H351
Cellulose	Microcrystalline cellulose / Cellulose, microcrystalline	(CAS-No.) 9004-34-6	< 20	Comb. Dust
Glass, oxide, chemicals	Glass, oxide / Glass / Sodium calcium polyphosphate / Glass powder / Calcium sodium polyphosphate / Sodium calcium polyphosphate silicate / Sodium zinc potassium polyphosphate / Glass flake / Calcium aluminum borosilicate / Glass dust / Fiberglass	(CAS-No.) 65997-17-3	< 15	Carc. 1B, H350
Quartz	Quartz (SiO2) / Silica, crystalline, quartz / Crystalline silica, quartz / .alpha.-Quartz / Silica, crystalline, .alpha.-quartz / Crystalline silica in the form of quartz / Quartz, silica / Quartz (respirable fraction) / Silica dust / Silica, crystalline-.alpha.quartz / Silica, quartz / Silica, .alpha.-quartz / Silicon dioxide / Silica, crystalline / Quartz (crystalline silica) / Silica dust, crystalline / QUARTZ POWDER / Silica, crystalline (quartz)	(CAS-No.) 14808-60-7	< 10	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Hydrogen sulfide	Hydrogen sulfide (H2S) / Hydrogen sulphide / Sulfur hydride / Dihydrogen sulphide / Hydrogen sulphide, hydrogen sulfide	(CAS-No.) 7783-06-4	**	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Acute Tox. 2 (Inhalation:gas), H330 Eye Irrit. 2A, H319

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				STOT SE 3, H335 STOT SE 1, H370 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
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Full text of H-phrases: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

**May be formed during processing.

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: Using proper respiratory protection, move the exposed person to fresh air at once. Encourage exposed person to cough, spit out, and blow nose to remove dust. Immediately call a poison center, physician, or emergency medical service.

Skin Contact: Remove contaminated clothing. Removal of solidified molten material from skin requires medical assistance. If exposed or concerned: Get medical advice/attention. Drench affected area with water for at least 15 minutes.

Eye Contact: Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Risk of thermal burns on contact with molten product. Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (Inhalation). May cause cancer by inhalation.

Inhalation: Dust may be harmful or cause irritation. Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. Silicosis increases the risk of tuberculosis. Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica.

Skin Contact: Direct contact may cause irritation by mechanical abrasion.

Eye Contact: May cause mechanical eye irritation.

Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: Long term exposure to respirable crystalline silica results in a significant risk of developing silicosis and other non-malignant respiratory disease, lung cancer, kidney effects, and immune system effects.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, dry chemical, foam, carbon dioxide.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Combustible Dust.

Explosion Hazard: Dust explosion hazard in air.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Hydrogen sulfide. Oxides of magnesium. Silicon oxides. Sulfur oxides.

Other Information: Risk of dust explosion.

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5.4. Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not handle until all safety precautions have been read and understood. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Avoid generating dust. Remove ignition sources. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams. Avoid generation of dust during clean-up of spills.

Methods for Cleaning Up: Use only non-sparking tools. Clean up spills immediately and dispose of waste safely. Use explosion proof vacuum during cleanup, with appropriate filter. Do not mix with other materials. Vacuum clean-up is preferred. If sweeping is required use a dust suppressant. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Cutting, crushing, sanding or grinding of 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. Heavy material - proper lifting methods or equipment. May release hydrogen sulfide. Hydrogen sulfide is a highly flammable and toxic gas. Gas can accumulate in the headspace of closed containers; use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide. Accumulation and dispersion of dust with an ignition source can cause a combustible dust explosion. Keep dust levels to a minimum and follow applicable regulations.

Precautions for Safe Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid creating or spreading dust. Do not breathe dust. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks, open flames, and hot surfaces. No smoking.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Avoid creating or spreading dust. Use explosion-proof electrical, ventilating, lighting equipment. Proper grounding procedures to avoid static electricity should be followed.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area.

Incompatible Materials: Dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas.

7.3. Specific End Use(s)

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

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Carbonic acid, magnesium salt (1:1) (546-93-0)		
USA NIOSH	NIOSH REL TWA	10 mg/m ³ (total dust (Magnesite)) 5 mg/m ³ (respirable dust (Magnesite))
British Columbia	OEL TWA	10 mg/m ³ (total dust (Magnesite)) 3 mg/m ³ (respirable fraction (Magnesite))
New Brunswick	OEL TWA	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica (Magnesite))
Nunavut	OEL STEL	20 mg/m ³ (Magnesite)
Nunavut	OEL TWA	10 mg/m ³ (Magnesite)
Northwest Territories	OEL STEL	20 mg/m ³ (Magnesite)
Northwest Territories	OEL TWA	10 mg/m ³ (Magnesite)
Québec	VEMP OEL TWA	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust (Magnesite))
Limestone (1317-65-3)		
USA OSHA	OSHA PEL TWA	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL TWA	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Alberta	OEL TWA	10 mg/m ³
British Columbia	OEL STEL	20 mg/m ³ (total)
British Columbia	OEL TWA	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)
New Brunswick	OEL TWA	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL STEL	20 mg/m ³
Nunavut	OEL TWA	10 mg/m ³
Northwest Territories	OEL STEL	20 mg/m ³
Northwest Territories	OEL TWA	10 mg/m ³
Québec	VEMP OEL TWA	10 mg/m ³ (Limestone, containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL	20 mg/m ³
Saskatchewan	OEL TWA	10 mg/m ³
Yukon	OEL STEL	20 mg/m ³
Yukon	OEL TWA	30 mppcf 10 mg/m ³
Asphalt (8052-42-4)		
USA ACGIH	ACGIH OEL TWA	0.5 mg/m ³ (fume, inhalable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen fume, coal tar-free
USA ACGIH	BEI (BLV)	2.5 µg/l Parameter: 1-Hydroxypyrene with hydrolysis - Medium: urine - Sampling time: end of shift at end of workweek (background) Parameter: 3-Hydroxybenzo(a)pyrene with hydrolysis - Medium: urine - Sampling time: end of shift at end of workweek (nonquantitative)
USA NIOSH	NIOSH REL (Ceiling)	5 mg/m ³ (fume)
Alberta	OEL TWA	5 mg/m ³ (Petroleum-fume)
British Columbia	OEL TWA	0.5 mg/m ³ (inhalable fume)
Manitoba	OEL TWA	0.5 mg/m ³ (fume, inhalable particulate matter)
New Brunswick	OEL TWA	5 mg/m ³ (petroleum fumes)
Newfoundland & Labrador	OEL TWA	0.5 mg/m ³ (fume, inhalable particulate matter)
Nova Scotia	OEL TWA	0.5 mg/m ³ (fume, inhalable particulate matter)
Nunavut	OEL STEL	1.5 mg/m ³ (Bitumen-fume)
Nunavut	OEL TWA	0.5 mg/m ³ (Bitumen-fume)
Northwest Territories	OEL STEL	1.5 mg/m ³ (Bitumen-fume)

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Northwest Territories	OEL TWA	0.5 mg/m ³ (Bitumen-fume)
Ontario	OEL TWA	0.5 mg/m ³ (fume, inhalable particulate matter)
Prince Edward Island	OEL TWA	0.5 mg/m ³ (fume, inhalable particulate matter)
Québec	VEMP OEL TWA	5 mg/m ³ (fume)
Saskatchewan	OEL STEL	1.5 mg/m ³ (fume and inhalable fraction)
Saskatchewan	OEL TWA	0.5 mg/m ³ (fume and inhalable fraction)
Yukon	OEL STEL	10 mg/m ³ (fume)
Yukon	OEL TWA	5 mg/m ³ (fume)
Cellulose (9004-34-6)		
USA ACGIH	ACGIH OEL TWA	10 mg/m ³
USA OSHA	OSHA PEL TWA	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL TWA	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Alberta	OEL TWA	10 mg/m ³
British Columbia	OEL TWA	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)
Manitoba	OEL TWA	10 mg/m ³
New Brunswick	OEL TWA	10 mg/m ³
Newfoundland & Labrador	OEL TWA	10 mg/m ³
Nova Scotia	OEL TWA	10 mg/m ³
Nunavut	OEL STEL	20 mg/m ³
Nunavut	OEL TWA	10 mg/m ³
Northwest Territories	OEL STEL	20 mg/m ³
Northwest Territories	OEL TWA	10 mg/m ³
Ontario	OEL TWA	10 mg/m ³
Prince Edward Island	OEL TWA	10 mg/m ³
Québec	VEMP OEL TWA	10 mg/m ³ (paper fibres-total dust)
Saskatchewan	OEL STEL	20 mg/m ³
Saskatchewan	OEL TWA	10 mg/m ³
Yukon	OEL STEL	20 mg/m ³
Yukon	OEL TWA	30 mppcf 10 mg/m ³
Glass, oxide, chemicals (65997-17-3)		
USA OSHA	OSHA PEL TWA	15 mg/m ³ total dust, 5 mg/m ³ , respirable fraction 8 hr
USA NIOSH	NIOSH REL TWA	3 fibers/cm ³ (fibers ≤3.5 µm in diameter & ≥10µm in length), TWA 5mg/m ³ (total)
Yukon	OEL TWA	30 mppcf (dust or fibrous) 10 mg/m ³ (dust or fibrous)
Quartz (14808-60-7)		
USA ACGIH	ACGIH OEL TWA	0.025 mg/m ³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	A2 - Suspected Human Carcinogen
USA OSHA	OSHA PEL TWA	50 µg/m ³ (Respirable crystalline silica)
USA OSHA	OSHA PEL TWA	(250)/(%SiO ₂ +5) mppcf TWA (respirable fraction) (10)/(%SiO ₂ +2) mg/m ³ TWA (respirable fraction) (For any operations or sectors for which the respirable crystalline silica standard, 1910.1053, is stayed or otherwise not in effect, See 20 CFR 1910.1000 TABLE Z-3)
USA NIOSH	NIOSH REL TWA	0.05 mg/m ³ (respirable dust)
USA IDLH	IDLH	50 mg/m ³ (respirable dust)
Alberta	OEL TWA	0.025 mg/m ³ (respirable particulate)
British Columbia	OEL TWA	0.025 mg/m ³ (respirable)

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Manitoba	OEL TWA	0.025 mg/m ³ (respirable particulate matter)
New Brunswick	OEL TWA	0.1 mg/m ³ (respirable fraction)
Newfoundland & Labrador	OEL TWA	0.025 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL TWA	0.025 mg/m ³ (respirable particulate matter)
Nunavut	OEL TWA	0.05 mg/m ³ (respirable fraction (Silica - crystalline))
Northwest Territories	OEL TWA	0.05 mg/m ³ (respirable fraction (Silica - crystalline))
Ontario	OEL TWA	0.1 mg/m ³ (designated substances regulation-respirable fraction (Silica, crystalline))
Prince Edward Island	OEL TWA	0.025 mg/m ³ (respirable particulate matter)
Québec	VEMP (OEL TWA)	0.1 mg/m ³ (respirable dust)
Saskatchewan	OEL TWA	0.05 mg/m ³ (respirable fraction (Silica - crystalline (Trydinite removed)))
Yukon	OEL TWA	300 particle/mL (Silica - Quartz, crystalline)
Hydrogen sulfide (7783-06-4) * May be formed during processing.		
USA ACGIH	ACGIH OEL TWA	1 ppm
USA ACGIH	ACGIH OEL STEL	5 ppm
USA OSHA	OSHA PEL C	20 ppm
USA OSHA	Acceptable Maximum Peak Above The Acceptable Ceiling Concentration For An 8-Hr Shift	50 ppm Peak (10 minutes once, only if no other measurable exposure occurs)
USA NIOSH	NIOSH REL Ceiling	15 mg/m ³
USA NIOSH	NIOSH REL C ppm	10 ppm
USA IDLH	IDLH	100 ppm
Alberta	OEL C	21 mg/m ³
Alberta	OEL Ceiling	15 ppm
Alberta	OEL TWA	14 mg/m ³
Alberta	OEL TWA	10 ppm
British Columbia	OEL Ceiling	10 ppm
Manitoba	OEL STEL	5 ppm
Manitoba	OEL TWA	1 ppm
New Brunswick	OEL STEL	21 mg/m ³
New Brunswick	OEL STEL	15 ppm
New Brunswick	OEL TWA	14 mg/m ³
New Brunswick	OEL TWA	10 ppm
Newfoundland & Labrador	OEL STEL	5 ppm
Newfoundland & Labrador	OEL TWA	1 ppm
Nova Scotia	OEL STEL	5 ppm
Nova Scotia	OEL TWA	1 ppm
Nunavut	OEL STEL	15 ppm
Nunavut	OEL TWA	10 ppm
Northwest Territories	OEL STEL	15 ppm
Northwest Territories	OEL TWA	10 ppm
Ontario	OEL STEL	15 ppm
Ontario	OEL TWA	10 ppm
Prince Edward Island	OEL STEL	5 ppm
Prince Edward Island	OEL TWA	1 ppm
Québec	VECD OEL STEL	21 mg/m ³
Québec	VECD OEL STEL	15 ppm
Québec	VEMP OEL TWA	14 mg/m ³
Québec	VEMP OEL TWA	10 ppm
Saskatchewan	OEL STEL	15 ppm
Saskatchewan	OEL TWA	10 ppm
Yukon	OEL STEL	27 mg/m ³
Yukon	OEL STEL	15 ppm

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Yukon	OEL TWA	15 mg/m ³
Yukon	OEL TWA	10 ppm

8.2. Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Proper grounding procedures to avoid static electricity should be followed. Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Use explosion-proof equipment. Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Dark pieces with granular surface
Odor	: Slight petroleum
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: > 1000 °C (1832 °F)
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20°C	: Not available
Relative Density	: Not available
Specific Gravity	: Not available
Solubility	: Insoluble
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, and incompatible materials. Sparks, heat, open flame and other sources of ignition. Dust accumulation (to minimize explosion hazard).

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10.5. Incompatible Materials: Dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas.

10.6. Hazardous Decomposition Products: Thermal decomposition may produce: Carbon oxides (CO, CO₂). Hydrogen sulfide. Oxides of magnesium. Silicon oxides. Sulfur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: May cause cancer (Inhalation).

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (Inhalation).

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Dust may be harmful or cause irritation. Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. Silicosis increases the risk of tuberculosis. Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica.

Symptoms/Injuries After Skin Contact: Direct contact may cause irritation by mechanical abrasion.

Symptoms/Injuries After Eye Contact: May cause mechanical eye irritation.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: Long term exposure to respirable crystalline silica results in a significant risk of developing silicosis and other non-malignant respiratory disease, lung cancer, kidney effects, and immune system effects.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Asphalt (8052-42-4)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	> 94.4 mg/m ³
Cellulose (9004-34-6)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	> 5800 mg/m ³ (Exposure time: 4 h)
Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
Hydrogen sulfide (7783-06-4)	
LC50 Inhalation Rat	444 ppm/4h
Asphalt (8052-42-4)	
IARC Group	2A, 2B
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Glass, oxide, chemicals (65997-17-3)	
IARC Group	2B
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.
Quartz (14808-60-7)	
IARC Group	1

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National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Not classified.

Hydrogen sulfide (7783-06-4)	
LC50 Fish 1	0.0448 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
LC50 Fish 2	0.016 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

12.2. Persistence and Degradability

Manufactured Shingle Modifier (MSM™)	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Manufactured Shingle Modifier (MSM™)	
Bioaccumulative Potential	Not established.

Asphalt (8052-42-4)	
BCF Fish	(no bioaccumulation expected)
Partition coefficient n-octanol/water (Log Pow)	> 6

Hydrogen sulfide (7783-06-4)	
BCF Fish	(no bioaccumulation expected)
Partition coefficient n-octanol/water (Log Pow)	0.45 (at 25 °C)

12.4. Mobility in Soil Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

14.4. In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Manufactured Shingle Modifier (MSM™)	
SARA Section 311/312 Hazard Classes	Health hazard - Specific target organ toxicity (single or repeated exposure) Health hazard - Carcinogenicity Physical hazard - Combustible dust

Carbonic acid, magnesium salt (1:1) (546-93-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Limestone (1317-65-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Asphalt (8052-42-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Cellulose (9004-34-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule,
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(40 CFR 711).	
Glass, oxide, chemicals (65997-17-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Quartz (14808-60-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Hydrogen sulfide (7783-06-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on the United States SARA Section 302	
Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb
SARA Section 313 - Emission Reporting	1 %

15.2. US State Regulations

California Proposition 65

 **WARNING:** This product can expose you to Bitumens, extracts of steam-refined and air refined, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Bitumens, extracts of steam-refined and air refined	X			
Quartz (14808-60-7)	X			

Carbonic acid, magnesium salt (1:1) (546-93-0)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Massachusetts - Right To Know List

Limestone (1317-65-3)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

Asphalt (8052-42-4)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

Cellulose (9004-34-6)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

Quartz (14808-60-7)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

Hydrogen sulfide (7783-06-4)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

15.3. Canadian Regulations

Carbonic acid, magnesium salt (1:1) (546-93-0)

Listed on the Canadian DSL (Domestic Substances List)

Limestone (1317-65-3)

Listed on the Canadian NDSL (Non-Domestic Substances List)

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Asphalt (8052-42-4)
Listed on the Canadian DSL (Domestic Substances List)
Cellulose (9004-34-6)
Listed on the Canadian DSL (Domestic Substances List)
Glass, oxide, chemicals (65997-17-3)
Listed on the Canadian DSL (Domestic Substances List)
Quartz (14808-60-7)
Listed on the Canadian DSL (Domestic Substances List)
Hydrogen sulfide (7783-06-4)
Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 03/12/2022

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

Acute Tox. 2 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 2
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Gas 1	Flammable gases Category 1
Press. Gas (Liq.)	Gases under pressure Liquefied gas
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
H319	Causes serious eye irritation
H330	Fatal if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H351	Suspected of causing cancer
H370	Causes damage to organs
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Indication of Changes

Section	Change	Date Changed	Version
1	Modified responsible party information, logo & emergency telephone number	03/12/2022	3.1

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