

MATERIAL SAFETY DATA SHEET (MSDS)

Ground Asphalt Shingle Composite

SECTION I – IDENTIFICATION

TRADE NAME: Ground Asphalt Shingle Composite
CHEMICAL NAME: Asphalt Shingle Composite
FACILITY NAME: Rooftop Recycling, LLC
ADDRESS: W2950 Highway 11
CITY: Elkhorn **STATE:** WI **ZIP CODE:** 53121
TELEPHONE NUMBER: (262) 723-2547
FAX NUMBER: (262) 723-2666
EMERGENCY NUMBER: (262) 949-7108

SECTION II - HAZARDOUS INGREDIENTS

Ground Asphalt Shingle Composite is a mixture of ground asphalt roofing shingles from one or more manufacturers which have been removed from single family homes and other residential buildings. The ingredients and other information listed in this MSDS are based on information provided by manufacturers of residential asphalt shingles.

Ingredients	CAS #	Concentration by Wt. %	OSHA PEL ¹	ACGIH TLV ²	Carcinogen Listing ³
Mineral Granules ⁴	Mixture	<45	NE	NE	NE
Limestone	1317-65-3	<45	15 mg/m ³ (total dust) 5 mg/m ³ respirable dust)	10 mg/m ³ (Inhalable particles) 3 mg/m ³ respirable particles	No
Petroleum Asphalt	8052-42-4	<30	NE	0.5 mg/m ³ (inhalable particles) as a benzene soluble aerosol	Yes
Crystalline Silica (quartz)	14808-60-7	<10	(10 mg/m ³)/(% SiO ₂ + 2) (respirable dust)	0.025 mg/m ³ (respirable particles)	Yes
Talc (containing no asbestos and <1% crystalline silica)	14807-96-6	<10	20 mppcf	2 mg/m ³ (respirable particles)	No
Fiberglass	65997-17-3	<15	15 mg/m ³ (total dust) 5 mg/m ³ respirable dust)	1 fiber/cc (respirable particles)	Yes

OSHA PEL¹ Permissible Exposure Limit (PEL) of the US Federal Occupational Safety and Health Administration.

ACGIH TLV² Threshold Limit Value (TLV) of the American Conference of Governmental Industrial Hygienists (2008 Edition).

Carcinogen Listing³ The word "Yes" in this column means that the chemical name in this row is listed in either the Annual Report on Carcinogens, from the US National Toxicology Program (NTP) or in the International Agency for Research on Cancer (IARC) "Monographs" (latest editions).

Mineral Ganules⁴ Granules may consist of a number of minerals, such as feldspar and crystalline silica, in the form of quartz, and kaolin and other materials such as iron oxide, chromium oxide (trivalent chromium), titanium dioxide, zinc ferrite and carbon black.

N/A Not Applicable

NE Not Established

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SECTION III - PHYSICAL DATA

BOILING POINT (F):	N/A	SPECIFIC GRAVITY (Water = 1):	N/A
VAPOR PRESSURE (mm Hg):	N/A	PERCENT VOLATILE BY VOLUME (%):	N/A
VAPOR DENSITY (AIR = 1):	N/A	pH:	N/A
SOLUBILITY IN WATER:	Negligible	EVAPORATION RATE:	N/A
APPEARANCE AND ODOR:	A black granular material.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (F):	N/A	FLAMMABLE LIMITS:	LEL:	N/A	UEL:	N/A
IGNITION POINT		NE				
EXTINGUISHING MEDIA:		Use carbon dioxide, alcohol foam, dry chemical or a fine water spray.				
UNUSUAL FIRE AND EXPLOSION HAZARDS:		Fire may generate black smoke. Thermal decomposition products (e.g., carbon monoxide) may be harmful if inhaled.				
SPECIAL FIRE FIGHTING PROCEDURES:		Wear appropriate self-contained breathing apparatus (SCBA) and follow appropriate firefighting procedures when responding to a fire involving this product.				

SECTION V - REACTIVITY DATA

CHEMICAL STABILITY:	Stable under normal conditions.
INCOMPATIBLE MATERIALS:	Strong acids or bases, oxidizing agents and some amines.
HAZARDOUS DECOMPOSITION PRODUCTS:	Thermal decomposition products may include carbon monoxide, carbon dioxide, hydrogen sulfide, oxides of sulfur and various hydrocarbons.

SECTION VI – HEALTH HAZARD INFORMATION

INHALATION:	<p>Inhalation of dust from recycled asphalt shingles may cause irritation of the nose, throat and upper respiratory tract.</p> <p>Inhalation of dust particles from recycled asphalt shingles may result in exposure to dusts containing minerals, glass fibers and petroleum asphalt. Potential inhalation hazards of these materials are as follows:</p> <p>Mineral Dusts - Fine airborne particles of mineral dust containing crystalline silica represent a potential hazard for the development of a restrictive lung disease called silicosis. Inhalation of crystalline silica dust has also been associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Respirable crystalline silica dust inhaled in the form of quartz or cristobalite from occupational sources is classified by IARC as <i>carcinogenic to humans</i> (Group 1) and as <i>known to be a human carcinogen</i> by NTP.</p> <p>Fiberglass - Dusts containing fiberglass fibers may cause irritation of the mouth, nose and throat. Fiberglass (continuous glass filament) is classified by IARC as <i>not classifiable as to their carcinogenicity to humans</i> (Group 3) and is not listed by NTP.</p> <p>Petroleum Asphalt - Dusts may cause irritation and inflammation of the mouth, nose and throat. Petroleum asphalt is classified by IARC as <i>not classifiable as to their carcinogenicity to humans</i> (Group 3) and is not listed by NTP.</p>
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SECTION VI – HEALTH HAZARD INFORMATION (continued)

SKIN CONTACT:	<p>Skin contact with recycled asphalt shingles and the dust from those shingles may result in irritation to the skin.</p> <p>Skin contact with recycled asphalt shingles and the dust from those shingles may result in exposure to minerals, glass fiber and petroleum asphalt. Potential skin contact hazards of these materials are as follows:</p> <p>Minerals - Contact may cause irritation to the skin.</p> <p>Fiberglass - Contact may cause itching and irritation to the skin.</p> <p>Petroleum Asphalt - Contact may cause irritation to the skin.</p>
EYE CONTACT:	<p>Eye contact with particles from recycled asphalt shingles may result in irritation to the eyes.</p> <p>Eye contact with particles from recycled asphalt shingles may result in exposure to minerals, glass fiber and petroleum asphalt. Eye contact hazards of these materials are as follows:</p> <p>Minerals - Contact with dusts may cause irritation of the eyes.</p> <p>Fiberglass - Contact with dust and fibers may cause irritation of the eyes.</p> <p>Petroleum Asphalt - Contact with dusts may cause irritation and inflammation of the eyes.</p>
INGESTION:	<p>Ingestion of particles from recycled asphalt shingles may result in irritation to the digestive system.</p> <p>Ingestion of particles from recycled asphalt shingles may result in exposure to mineral dusts, glass fiber and petroleum asphalt. Ingestion hazards of these materials are as follows:</p> <p>Minerals - Ingestion may cause irritation to the digestive system.</p> <p>Fiberglass - Ingestion may cause irritation of the stomach and intestines.</p> <p>Petroleum Asphalt - Ingestion may cause irritation to the digestive system.</p>
ASBESTOS:	<p>Asbestos was used by some asphalt single manufacturers until the mid 1970's. Other roofing materials from the same time period, such as tar papers and asphalt cement, have been reported to have contained small amounts of asbestos. Rooftop Recycling, LLC conducts regular tests to ensure that its recycled residential asphalt single products do not contain significant amounts (equal to or more than 1% by weight) of asbestos, as defined by the USEPA and OSHA.</p>

SECTION VII – EMERGENCY FIRST AID PROCEDURES

INHALATION:	Remove from exposure to fresh air. Get prompt medical attention for any breathing difficulty.
SKIN CONTACT:	Wash skin well with water and soap. Get prompt medical attention if a rash or allergic-type reaction occurs.
EYE CONTACT:	Flush immediately with clean water for at least 15 minutes. Contact a physician if irritation persists or an allergic-type reaction occurs.
INGESTION:	Contact a physician to determine if a large amount has been consumed or if an allergic-type reaction or other symptoms occur.

SECTION VIII – PERSONAL PROTECTIVE EQUIPMENT

- RESPIRATORY:** Inhalation of dust may occur when stockpiles or loads of recycled asphalt shingles are moved. A properly fitted and worn N-95 filtering facepiece respirator will provide sufficient protection under most circumstances. Workers with allergic or sensitization reactions to this material may require additional protection.
- EYEWEAR:** Eye protection is not required under most circumstances. Dust tight goggles may be used where airborne dust causes irritation of the eyes. Workers with allergic or sensitization reactions to the foam or particles from the dust or particles may require additional protection.
- CLOTHING** Workers with allergic or sensitization reactions from contact with shingles or particulates from shingles may require the use of protective clothing. Appropriate clothing which prevents direct contact with the shingles and particulates from shingles should be used.
- GLOVES:** Workers with allergic or sensitization reactions from contact with shingles or particulates from shingles may require the use of protective gloves. Appropriate gloves which prevent direct contact with the shingles and particulates from shingles should be used.

SECTION IX - SPECIAL PRECAUTIONS (FOR HANDLING, STORAGE AND USE)

- HANDLING** Direct contact with flames and other ignition sources should be avoided with this material.
- VENTILATION:** Use natural and/or mechanical ventilation as necessary to reduce elevated dust concentrations that may occur when handling this material.
- STORAGE** All material should be stored in accordance with local, state and federal regulations.

SECTION X - SPILL OR LEAK PROCEDURES

- PROCEDURES:** Pick up large pieces. Sweep up or vacuum small pieces and dust.
- WASTE DISPOSAL METHOD:** All recovered material should be packaged, labeled, transported, and disposed/reclaimed in accordance with local, state and federal regulations.

SECTION XI - CONTACT INFORMATION

For further information contact: Rooftop Recycling, LLC
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The information contained in this Material Safety Data Sheet (MSDS) has been assembled from scientific data that was currently available at the time of its completion. New information may be developed from time to time which may render the information in this MSDS obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or for the consequences of its use or misuse. The user should review the information contained in this MSDS in the specific context of intended use to determine whether the recommendations contained in the MSDS are appropriate.