



# SAFETY DATA SHEET

## HORNFELS

### SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION	SYNONYMS	CHEMICAL NAME/CAS NO.
Hornfels	Crushed stone; Coarse Aggregate	Hornfels from contact metamorphism with hot igneous body
RECOMMENDED USE OR RESTRICTIONS Product is naturally-occurring rock used primarily as a construction aggregate for road material and fill as well as in concrete products and certain specialty applications. The aggregate is commonly distributed in bulk shipments.		
MANUFACTURER	ADDRESS	TELEPHONE NO.
New Enterprise Stone & Lime Co., Inc. or related brands: Valley Quarries, Inc.	PO Box 77, New Enterprise, PA 16664	814.766.2211
SDS PREPARED BY	ADDRESS	TELEPHONE NO.
New Enterprise Stone & Lime Co., Inc.	PO Box 77, New Enterprise, PA 16664	814.766.2211
IN CASE OF EMERGENCY CONTACT		EMERGENCY PHONE NO.
CHEMTREC		800.424.9300

### SECTION 2 – HAZARD(S) IDENTIFICATION

#### HAZARD CLASSIFICATION:

Category 1A Carcinogen

Category 1 Specific Target Organ Toxicity (STOT) following repeated exposures



SIGNAL WORD: DANGER

HAZARDS OVERVIEW: Hornfels in its solid form does not present a health hazard under normal use and conditions. However, dust formed from the use of Hornfels aggregates may release the components noted in Section 3 as airborne particulates, posing an inhalation hazard. Dust may cause irritation to eyes and/or respiratory system so avoid breathing excessive dust.

Long-term overexposure to respirable crystalline silica in the workplace may cause lung damage and silicosis. Crystalline silica is listed as a Group 1 carcinogen (carcinogenic to humans) by the IARC and NTP.

PRIMARY ROUTE(S) OF EXPOSURE: Inhalation

ADDITIONAL ROUTE(S) OF EXPOSURE: Skin and/or eye contact

EYE CONTACT: Nuisance dust

SKIN CONTACT: Skin irritant

SKIN ABSORPTION: Non-hazardous

INGESTION: May cause temporary irritation

INHALATION: Dust generated during handling and use may contain respirable crystalline silica (quartz). Prolonged inhalation to respirable crystalline silica may cause silicosis. Occupational exposure to respirable dust in general and respirable crystalline silica should be monitored.

See Section 8 for exposure thresholds.



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### SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

CAS No.	COMPONENT / CHEMICAL NAME	Wt.% (Approx.)
14808-60-7	Crystalline Silica (Quartz) *	>0.1%

\* Product contains greater than 0.1% total crystalline silica (quartz) and greater than 0.1% respirable crystalline silica (particle size  $\leq 4$   $\mu\text{m}$ ) based on analytical results. Respirable crystalline silica is considered a hazardous chemical as defined by ACGIH and NIOSH.

### SECTION 4 – FIRST-AID MEASURES

- INHALATION:** Remove person from exposure area to fresh air. Adverse health effects associated with exposure to respirable crystalline silica (quartz) result from chronic not acute exposure.
- EYES:** Rinse immediately with plenty of water. If irritation persists, seek medical attention.
- SKIN:** Wash with soap and water.
- INGESTION:** No special precautions – product is considered non-toxic in small amounts. If large amounts are ingested, seek medical attention since gastrointestinal irritation and/or blockage may result.

### SECTION 5 – FIREFIGHTING MEASURES

- EXTINGUISHING AGENTS:** Product is not flammable, combustible, or explosive. Use extinguishing media appropriate for surrounding fire.
- SPECIAL FIRE FIGHTING PROCEDURES:** Use self contained breathing apparatus (SCBA) with full face mask.
- UNUSUAL FIRE AND EXPLOSION HAZARDS:** See Section 10 regarding Stability and Reactivity.

### SECTION 6 – ACCIDENTAL RELEASE MEASURES

#### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

- PERSONAL PRECAUTIONS:** The personal protection and control measures identified in Section 8 of this SDS should be used as appropriate.
- ENVIRONMENTAL PRECAUTIONS:** No specific precautions. Discard any product, residue, disposable container or liner in compliance with regulatory requirements.
- CLEANUP PROCEDURES:** Avoid dry sweeping that may create excessive dust. Use water spraying/flushing, ventilated vacuum equipment with HEPA filters, or wet sweeping/dust suppressant.
- SPECIAL PROCEDURES:** No special containment or evacuation procedures are necessary.

### SECTION 7 – HANDLING AND STORAGE

Avoid dust formation and breathing dust. Use adequate exhaust ventilation and dust collection. Follow the personal protection and control measures set forth in Section 8 of this SDS when handling this product.

Overexposure to respirable crystalline silica is not likely due to natural air movement when this product is used outdoors. Exposure to airborne dust indoors must be kept to a minimum. Overexposure to crystalline silica is not likely as a result of normal use of this product; however, long-term overexposure may occur indoors if activities stir up dust and proper ventilation or personal protective equipment is not used. Engineering controls, such as ventilation and wetting methods, in conjunction with respiratory protection shall be used if excessive dust is formed from the use of this product indoors.



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### SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

CAS No.	COMPONENT / CHEMICAL NAME	Wt.% (Approx.)	IDLH (mg/m <sup>3</sup> )	EXPOSURE LIMITS <sup>(a),(b)</sup>			
				TYPE	OSHA PEL (8-HR TWA)	NIOSH REL (TWA)	ACGIH (TWA)
14808-60-7	Crystalline Silica (Quartz) <sup>(c)</sup>	>0.1%	50	Respirable fraction <sup>(d)</sup>	10 mg/m <sup>3</sup> ÷ (%SiO <sub>2</sub> + 2)	0.05 mg/m <sup>3</sup>	0.025 mg/m <sup>3</sup>
				Total dust <sup>(e)</sup>	30 mg/m <sup>3</sup> ÷ (%SiO <sub>2</sub> + 2)		

Notes:

- (a) OSHA PEL (permissible exposure limits) taken from 29 CFR 1910.1000, Tables Z-1. Proposed MSHA PEL withdrawn in 2002 and 2004; therefore assume the OSHA PEL to represent any MSHA PEL. NIOSH and IDHL values obtained from the Centers for Disease Control and Prevention (CDC) NIOSH Pocket Guide. ACGIH values obtained from [www.acgih.org](http://www.acgih.org) where available.
- (b) TWA = 8-Hour Time Weighted Average. No ceiling or short-term exposure limits (STEL) have been designated for the above ingredient(s).
- (c) Product contains greater than 0.1% total crystalline silica (quartz) and greater than 0.1% respirable crystalline silica (particle size ≤4 μm) based on analytical results. Only respirable crystalline silica is considered a hazardous chemical as defined by ACGIH and NIOSH.
- (d) "Respirable fraction" refers to the amount of airborne dust in sizes capable of passing through the upper respiratory system to reach the lower lung passages; i.e., the amount of dust small enough to be inhaled into the lungs during periods of exposure to a product. Not all dust is respirable.
- (e) "Total dust" refers to the total amount of all airborne particulate generated for a particular component.

ACGIH – American Conference of Governmental Industrial Hygienists  
 IDLH – Immediately Dangerous to Life and Health  
 MSHA – Mine Safety and Health Administration  
 NIOSH – National Institute for Occupational Safety and Health  
 OSHA -- Occupational Safety and Health Administration  
 PEL – Permissible Exposure Limit  
 REL – Recommended Exposure Limit  
 STEL – Short Term Exposure Limit  
 TLV – Threshold Limit Value  
 TWA – Time Weighted Average

ENGINEERING CONTROLS: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION: Wear a NIOSH/MSHA approved respirator with N-100 or P-100 filters when adequate ventilation is not available or occupational exposure limits are exceeded. For dusty conditions use an approved dust mask.

VENTILATION: Use local exhaust ventilation as well as sufficient general area ventilation.

SKIN PROTECTION: Wearing of protective gloves and clothing is not required but may help prevent skin dryness and irritation.

EYE PROTECTION: Safety glasses with side shields should be worn. Dust goggles should be worn when excessively (visible) dusty conditions are present or are anticipated. The employer should provide an eye-wash station or fountain within the immediate working area for emergency use.

HYGIENE: Wash dust-exposed skin with soap and water before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use.

OTHER CONTROL MEASURES: Respirable dust and quartz levels should be monitored by a health and safety professional as needed to determine worker exposure levels. Engineering controls, including, but not limited to, wet suppression, ventilation, enclosures, etc., should be used as needed to reduce employee exposure to particulates and to maintain exposure levels below allowable limits.



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### SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Rectangular to cubical in shape, medium gray (N5) when dry but appear dark gray (N3) when wet. No odor. Fresh surface of rock has a sugary texture.

pH: Not Determined

SPECIFIC GRAVITY (H<sub>2</sub>O = 1): 2.70-2.76

MELTING POINT/FREEZING POINT: Not Applicable

BOILING POINT (AT 1 ATM): Not Applicable

FLASHPOINT (Method Used): None

FLAMMABLE LIMITS IN AIR: Not flammable LFL - NA UFL - NA

EVAPORATION RATE (ETHER = 1): Not Applicable

VAPOR DENSITY IN AIR (AIR = 1): Not Applicable

VAPOR PRESSURE: Not Applicable

BULK DENSITY: 78-94 lbs/ft<sup>3</sup> (Typical, varies by product size)

SOLUBILITY IN WATER: Insoluble

DECOMPOSITION TEMPERATURE: 1750°F to 1950° F

AUTOIGNITION TEMPERATURE: Not Applicable

VISCOSITY: Not Applicable

PARTITION COEFFICIENT (n-octanol/water): Not applicable. The partition coefficient does not apply to solids.

### SECTION 10 – STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID: None

INCOMPATIBILITY AND REACTIVITIES:  
(MATERIALS TO AVOID):

Powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride magnesium trifluoride, and oxygen difluoride. Silica readily dissolves in hydrofluoric acid producing a corrosive gas, silicon tetrafluoride.

HAZARDOUS DECOMPOSITION PRODUCTS: No spontaneous decomposition. Crushing and handling may produce airborne particulates containing crystalline silica. Heating above 1580° F (870°C) may produce other forms of quartz such as tridymite and cristobalite, which are considered more damaging to lungs than quartz.

HAZARDOUS POLYMERIZATION: Not known to polymerize.

### SECTION 11 – TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE OVEREXPOSURE:

EYE CONTACT: Direct contact with dust may cause mechanical irritation of the eyes.

SKIN CONTACT: Direct contact may cause dryness or mild irritation.

INGESTION: This material is considered to be harmless and inert when ingested.

INHALATION: Exposure to a large concentration of dust may cause mechanical irritation of the mucous membranes and respiratory tract.

EFFECTS OF CHRONIC OVEREXPOSURE:

EYE CONTACT: Repeated exposure may cause conjunctive inflammation.

SKIN CONTACT: Prolonged contact may cause dryness or mild irritation.

INGESTION: Not expected to occur.

INHALATION: Continued long-term overexposure may affect respiratory function or cause pulmonary fibrosis. Prolonged inhalation of respirable crystalline silica (quartz) may cause silicosis.



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**CARCINOGENICITY:** Hornfels is not listed by the National Toxicology Program (NTP), or the International Agency for Research on Cancer (IARC) as a carcinogen. However, respirable crystalline silica is listed as a Group 1 carcinogen (carcinogenic to humans) by the IARC. The NTP and ACGIH also list respirable crystalline silica as a known or suspected human carcinogen. These classifications are based on sufficient evidence of carcinogenicity in experimental animals and on selected epidemiological studies of workers exposed to crystalline silica.

This product is typically used outdoors and overexposure to respirable crystalline silica is not likely as a result of normal use of this product. Chronic tobacco smoking may further increase the risk of developing chronic lung problems and may exacerbate the effects of long-term overexposure to respirable crystalline silica.

### SECTION 12 – ECOLOGICAL INFORMATION

No ecological data available. Product is not expected to be ecotoxic or harmful to aquatic life. Product is a solid, therefore the following parameters are not affected by the components listed in Section 3: persistence and degradability, bioaccumulative potential, and mobility in soil.

### SECTION 13 – DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD:** Not a RCRA hazardous waste. Collect and reuse clean materials. Dispose of waste material in accordance with applicable federal, state, and local laws and regulations.

### SECTION 14 – TRANSPORT INFORMATION

**DOT HAZARD CLASS:** Not restricted. Not hazardous under U.S. Department of Transportation regulations.

**UN NUMBER OR SHIPPING NAME:** None

**PACKING GROUP:** NA

**PLACARD REQUIRED:** None

**LABEL REQUIRED:** Label as required by the OSHA Hazard Communication standard [29 CFR 1910.1200(f)] and applicable state and local laws and regulations.

**ENVIRONMENTAL HAZARDS:** None. Product is not expected to be ecotoxic or harmful to aquatic life

**SPECIAL PRECAUTIONS:** None

### SECTION 15 – REGULATORY INFORMATION

#### US FEDERAL REGULATIONS:

##### Occupational Health and Safety Administration (OSHA)

OSHA requires carcinogens as defined on the following lists to be reported when present at quantities of 0.1% or greater:

##### National Toxicology Program (NTP) Annual Report on Carcinogens

Crystalline Silica (Respirable Size) is listed on the NTP 13<sup>th</sup> Report on Carcinogens (Updated October 2, 2014) and is known to be a human carcinogen. Respirable crystalline silica is expected to be present at levels exceeding 0.1%, based on analytical results of this product.

##### International Agency for Research on Cancer (IARC) Monographs

<i>Chemical</i>	<i>CAS No.</i>	<i>Group</i>	<i>Carcinogenicity Status</i>
Crystalline Silica, Dust	14808-60-7	1	Carcinogenic to humans

Signal word: DANGER

Pictogram(s):





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### Toxic Substance Control Act (TSCA)

TSCA Status: Hornfels is not specifically listed on the TSCA Chemical Substance Inventory, although specific components of the product are listed. Export of the product may be subject to premanufacture notice (PMN) requirements.

### Superfund Amendments and Reauthorization Act (SARA) Title III / Emergency Planning and Community Right to Know Act (EPCRA)

**Section 302/304:** This product is not listed under Section 302/304.

**Section 311/312:** This product is subject to SARA Title III (EPCRA) Section 311 requirements since it has an assigned ACGIH TLV value. Tier I or II reporting under Section 312 may apply depending on the quantity of product handled, stored, or used.

Section 311 requires reporting of safety data sheets (SDS) or a list of covered chemicals to the state emergency response commission (SERC), local emergency planning committee (LEPC), and local fire department. Section 312 requires reporting of the Tier I/Tier II - Emergency and hazardous chemical inventory form. Minimum thresholds for reporting under Sections 311 and 312 are as follows: For Extremely Hazardous Substances (EHS) designated under Section 302 of Title III, (this product is not considered an EHS) the reporting threshold is 500 pounds (or 227 kg.) or the threshold planning quantity (TPQ), whichever is lower. For all other hazardous chemicals for which facilities are required to have or prepare an SDS, the minimum reporting threshold is 10,000 pounds (or 4,540 kg.).

**Section 313:** This product is not subject to the reporting requirements of SARA Title III (EPCRA), Section 313 relating to Toxic Release Inventory (TRI) Reporting.

### Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

This product is not a CERCLA hazardous substance so releases of this product, in quantities equal to or greater than their reportable quantity (RQ), are not subject to reporting to the National Response Center under CERCLA or to state and local emergency planning committees under Section 304 of SARA Title III (EPCRA).

### US STATE REGULATIONS:

#### State Right-to-Know Regulations

Some states within the US that have promulgated State Right-to-Know regulations with chemical listing requirements including the chemicals in this product are provided below. This list is not all-inclusive. Other states may also regulate this product and the user should consult state or local authorities for specific regulations that may apply.

Chemical	CAS No.	State						
		DE	MD	NJ	NY	PA	VA	WV
Crystalline Silica (Quartz)	14808-60-7	X		X		X		

#### Other State Listings

##### California Proposition 65

The Safe Drinking Water and Toxic Enforcement Act of 1986, commonly known as Proposition 65, is a California law which requires any manufacturer, packager, or producer who conducts business in California to comply with the provisions of Proposition 65 by adding specific warnings to products and shipments that are sent to California.

Crystalline Silica (Respirable Size) is listed on the California Proposition 65 (last updated May 11, 2015) as a carcinogen.

##### Delaware Air Quality Management List

This product is not listed under Delaware's *Reporting of a Discharge or Air Contaminant* (7 Del. C., Section 6028) regulation for reporting the discharge of a pollutant or air contaminant meeting or exceeding a "Delaware Reportable Quantity" (DRQ).

##### New Jersey TCPA EHS List

New Jersey's Toxic Catastrophe Prevention Act (TCPA) (N.J.S.A. 13:1K-19 et seq.) verifies compliance with state and federal accidental release prevention (ARP) requirements, including mandates to have a DEP-approved risk management program (RMP) if an extraordinarily hazardous substance (EHS) is handled, used, manufactured, stored, or generated over the specific quantities listed in the Act. This product contains no chemicals currently listed on the TCPA EHS List.



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### SECTION 16 – OTHER INFORMATION

Date of Preparation: 08/14/14  
Updated: 05/20/15  
Supersedes: all previous versions

The information in this SDS, including but not limited to product composition, recommended industrial hygiene, and safe handling procedures, was obtained from sources believed to be reliable and is offered in good faith as generally applicable; however, exact compositions may vary. Each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate. No warranty, either express or implied, is hereby made. Once this product leaves this facility, the conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. We do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of, or in any way connected with, the handling, storage, use, or disposal of the product. The recipient of this material should be aware of the possible existence of additional local regulations which may be applicable to this material.