



National Slate Association, Inc.

65 East Main Street, Falconer, NY 14733 866.256.2111 www.slateassociation.org

March 19, 2018

This Cover Letter Must Be Included With Any Distribution Of The Thirteen Page North American Natural Slate Safety Data Sheet As Published By The National Slate Association And Is Considered Part Of The Data Sheet By The Association. The Report (Including The Cover Letter) Must Be Reproduced In Full. No Partial Reproduction Or Distribution Is Permitted Without The Written Approval Of The National Slate Association.

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National Slate Association, Safety Data Sheet, North American Natural Slate, Date of Issue 03/19/2018, Version 1.0, Falconer NY, March 19, 2018 (available at www.slateassociation.org).

Safety Data Sheet, North American Natural Slate, Date of Issue 03/19/2018, Version 1.0 is distributed by the National Slate Association for reference in the safe handling and application of natural slate roof shingles. As stated in Additional Information of Section 1.1 of the Safety Data Sheet, finished natural slate roof shingles, as shipped, pose no inhalation hazards unless altered or processed. The inhalation hazards outlined in the Safety Data Sheet only apply when the product is further processed.

The Safety Data Sheet was developed and undertaken to provide National Slate Association members with a generic Safety Data Sheet covering North American produced natural roofing slate based on the average mineral and chemical makeup of the roofing slate produced by North American quarries.

Please note that precautionary statements P403, P233 and P405 have been omitted from this safety data sheet as the storage of natural slate shingles presents none of the inhalation hazards listed in the Hazard Statements of this safety data sheet and it is not necessary for them to be stored in a “well-ventilated place” or kept in “tightly closed containers” or “stored locked up”. The Hazard Statements for the material only apply when natural slate shingles are manufactured, altered or installed.

The omission of these three precautionary statements is in keeping with allowable omissions for precautionary statements as stated in 29CFR 1910.1200 Appendix C. C.2.2.2 and in Section F Sub Section 2(e) Shipped Containers of OSHA Instruction CPL 02-02-079 dated July 29, 2015.

For questions related to these test reports, please contact the National Slate Association toll free at 866-256-2111 or email info@slateassociation.org.

North American Natural Slate

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).
Date of Issue: 03/19/2018 Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: North American Natural Slate

Synonyms: Natural Slate From North American Quarry Producers Only

Additional Information: This product is a naturally occurring material. The hazards associated with the massive form are different than those associated with the processed form/dust. The massive form of this material, as shipped, poses no hazards unless altered/processed. If the slate tiles are altered in downstream use due to subsequent finishing operations, such as sawing, drilling, grinding, polishing, etc., and dust or fines are generated, the material will present health hazards. The hazards outlined in this Safety Data Sheet are for when this product is further processed and dust or fines are generated.

1.2. Intended Use of the Product

Steep Slope Roofing

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

Company

National Slate Association

65 East Main St.

Falconer, NY 14733

866-256-2111

info@slateassociation.org

slateassociation.org

1.4. Emergency Telephone Number

Emergency Number : 866-256-2111

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Carc. 1A H350

STOT SE 3 H335

STOT RE 1 H372

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

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA)

:



GHS07



GHS08

Signal Word (GHS-US/CA)

: Danger

Hazard Statements (GHS-US/CA)

: H335 - May cause respiratory irritation.

H350 - May cause cancer (Inhalation).

H372 - Causes damage to organs (lungs) 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.

P271 - Use only outdoors or in a well-ventilated area.

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

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

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P312 - Call a POISON CENTER or doctor if you feel unwell.

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

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

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

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	Product Identifier	% *	GHS Ingredient Classification
Quartz	(CAS-No.) 14808-60-7	62	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Aluminum oxide (Al ₂ O ₃)	(CAS-No.) 1344-28-1	15	Not classified
Potassium oxide**	(CAS-No.) 12136-45-7	4	PHNOC 1 Skin Corr. 1A, H314 Eye Dam. 1, H318
Water	(CAS-No.) 7732-18-5	4	Not classified
Iron oxide (FeO)	(CAS-No.) 1345-25-1	4	Not classified
Magnesium oxide (MgO)	(CAS-No.) 1309-48-4	3	Not classified
Calcium oxide**	(CAS-No.) 1305-78-8	2	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402
Carbon dioxide	(CAS-No.) 124-38-9	2	Simple Asphy Press. Gas (Comp.), H280
Iron oxide (Fe ₂ O ₃)	(CAS-No.) 1309-37-1	2	Comb. Dust
Limestone	(CAS-No.) 1317-65-3	1	Not classified
Sodium oxide (Na ₂ O)**	(CAS-No.) 1313-59-3	1	PHNOC 1 Skin Corr. 1B, H314 Eye Dam. 1, H318

Full text of H-phrases: see section 16

** The intrinsic hazards associated with these individual components are not applicable in the final form of the material since they are inextricably bound within the matrix of the product and not available for individual exposure to the end user.

*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%).

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: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

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

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4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: For particulates and dust: Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation). May cause cancer (Inhalation). Health effects from silica exposures include: silicosis, a disabling, non-reversible and sometimes fatal lung disease; other non-malignant respiratory diseases, such as chronic bronchitis; lung cancer; and kidney disease, including nephritis and end-stage renal disease.

Inhalation: Prolonged exposure may cause irritation. 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.

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

Eye Contact: May cause slight irritation to eyes. May cause mechanical eye irritation.

Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: For particulates and dust: May cause cancer by inhalation. Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation). 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. Pre-existing lung diseases such as emphysema or asthma may be aggravated by exposure to dusts. Pulmonary function may be reduced by inhalation of respirable crystalline silica. Lung scarring produced by such inhalation may lead to a progressive massive fibrosis of the lung which may aggravate other pulmonary conditions and diseases and which increases susceptibility to pulmonary tuberculosis. Progressive massive fibrosis may be accompanied by right heart enlargement, heart failure, and pulmonary failure. Smoking aggravates the effects of exposure.

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: Not flammable. Use extinguishing media appropriate for surrounding fire.

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: Non-combustible.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions. Quartz (silica) will dissolve in hydrofluoric acid producing a corrosive gas, silicon tetrafluoride.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Avoid raising dust. Do not breathe fumes from fires or vapors from decomposition.

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

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Nitrogen oxides. Silica compounds. Metal oxides. Calcium oxides.

Sodium oxides. Potassium oxides. Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870°C, it can change to a form of crystalline silica known as tridymite, and if crystalline silica (quartz) is heated to more than 1470°C, it can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as tridymite and cristobalite is one-half of the OSHA PEL for crystalline silica (quartz).

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: Avoid generating dust. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not handle until all safety precautions have been read and understood.

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.

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Emergency Procedures: Ventilate area. 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.

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.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. Vacuum clean-up is preferred. If sweeping is required use a dust suppressant. Transfer spilled material to a suitable container for disposal. 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: Sawing, crushing, sanding or grinding slate 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.

Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. The following applies to the product if it is sawn, sanded or altered in such a way that excessive and/or significant particulates and/or dusts may be generated: Avoid creating or spreading dust. Do not breathe dust. Avoid contact with eyes, skin and clothing. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Use appropriate personal protective equipment (PPE).

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.

Storage Conditions: Store in a well-ventilated place. Stack in a stable manner. Keep/Store away from incompatible materials.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Aggregate dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

7.3. Specific End Use(s)

Steep Slope Roofing

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), Canadian provincial governments, or the Mexican government.

Quartz (14808-60-7)		
Mexico	OEL TWA (mg/m ³)	0.1 mg/m ³ (respirable fraction)
USA ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	A2 - Suspected Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	50 µg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³ (respirable dust)
USA IDLH	US IDLH (mg/m ³)	50 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate)
British Columbia	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable)
Manitoba	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	0.1 mg/m ³ (respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Nunavut	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction)
Northwest Territories	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction)
Ontario	OEL TWA (mg/m ³)	0.1 mg/m ³ (designated substances regulation-respirable)

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Prince Edward Island	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Québec	VEMP (mg/m ³)	0.1 mg/m ³ (respirable dust)
Saskatchewan	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction)
Yukon	OEL TWA (mg/m ³)	300 particle/mL
Aluminum oxide (Al2O3) (1344-28-1)		
Mexico	OEL TWA (mg/m ³)	10 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³ (Al2O3)
Yukon	OEL TWA (mg/m ³)	30 mppcf (Al2O3) 10 mg/m ³ (Al2O3)
Magnesium oxide (MgO) (1309-48-4)		
Mexico	OEL TWA (mg/m ³)	10 mg/m ³ (fume)
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (fume, total particulate)
USA IDLH	US IDLH (mg/m ³)	750 mg/m ³ (fume)
Alberta	OEL TWA (mg/m ³)	10 mg/m ³ (fume)
British Columbia	OEL STEL (mg/m ³)	10 mg/m ³ (respirable dust and fume)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (fume, inhalable) 3 mg/m ³ (respirable dust and fume)
Manitoba	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (fume)
Newfoundland & Labrador	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³ (inhalable fraction)
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³ (inhalable fraction)
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
Ontario	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable)
Prince Edward Island	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter)
Québec	VEMP (mg/m ³)	10 mg/m ³ (fume)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³ (inhalable fraction)
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
Yukon	OEL STEL (mg/m ³)	10 mg/m ³ (fume)
Yukon	OEL TWA (mg/m ³)	10 mg/m ³ (fume)
Iron oxide (Fe2O3) (1309-37-1)		
Mexico	OEL TWA (mg/m ³)	5 mg/m ³
Mexico	OEL STEL (mg/m ³)	10 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³ (respirable particulate matter)

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USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	10 mg/m ³ (fume) 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³ (dust and fume)
USA IDLH	US IDLH (mg/m ³)	2500 mg/m ³ (dust and fume)
Alberta	OEL TWA (mg/m ³)	5 mg/m ³ (respirable)
British Columbia	OEL STEL (mg/m ³)	10 mg/m ³ (fume)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total particulate matter containing no Asbestos and <1% Crystalline silica-total particulate) 3 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica-respirable particulate) 5 mg/m ³ (dust and fume)
Manitoba	OEL TWA (mg/m ³)	5 mg/m ³ (respirable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	5 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, dust and fume) 10 mg/m ³ (regulated under Rouge-particulate matter containing no Asbestos and <1% Crystalline silica)
Newfoundland & Labrador	OEL TWA (mg/m ³)	5 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	5 mg/m ³ (respirable particulate matter)
Nunavut	OEL STEL (mg/m ³)	10 mg/m ³ (dust and fume) 20 mg/m ³ (regulated under Rouge)
Nunavut	OEL TWA (mg/m ³)	5 mg/m ³ (dust and fume) 10 mg/m ³ (regulated under Rouge)
Northwest Territories	OEL STEL (mg/m ³)	10 mg/m ³ (dust and fume) 20 mg/m ³ (regulated under Rouge)
Northwest Territories	OEL TWA (mg/m ³)	5 mg/m ³ (dust and fume) 10 mg/m ³ (regulated under Rouge)
Ontario	OEL TWA (mg/m ³)	5 mg/m ³ (respirable)
Prince Edward Island	OEL TWA (mg/m ³)	5 mg/m ³ (respirable particulate matter)
Québec	VEMP (mg/m ³)	5 mg/m ³ (dust and fume) 10 mg/m ³ (containing no Asbestos and <1% Crystalline silica, regulated under Rouge-total dust)
Saskatchewan	OEL STEL (mg/m ³)	10 mg/m ³ (dust and fume) 20 mg/m ³ (regulated under Rouge)
Saskatchewan	OEL TWA (mg/m ³)	5 mg/m ³ (dust and fume) 10 mg/m ³ (regulated under Rouge)
Yukon	OEL STEL (mg/m ³)	10 mg/m ³ (fume) 20 mg/m ³ (regulated under Rouge)
Yukon	OEL TWA (mg/m ³)	5 mg/m ³ (fume) 30 mppcf (regulated under Rouge) 10 mg/m ³ (regulated under Rouge)

Calcium oxide (1305-78-8)		
Mexico	OEL TWA (mg/m ³)	2 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	2 mg/m ³
USA IDLH	US IDLH (mg/m ³)	25 mg/m ³
Alberta	OEL TWA (mg/m ³)	2 mg/m ³
British Columbia	OEL TWA (mg/m ³)	2 mg/m ³
Manitoba	OEL TWA (mg/m ³)	2 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	2 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	2 mg/m ³

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Nova Scotia	OEL TWA (mg/m ³)	2 mg/m ³
Nunavut	OEL STEL (mg/m ³)	4 mg/m ³
Nunavut	OEL TWA (mg/m ³)	2 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	4 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	2 mg/m ³
Ontario	OEL TWA (mg/m ³)	2 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	2 mg/m ³
Québec	VEMP (mg/m ³)	2 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	4 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	2 mg/m ³
Yukon	OEL STEL (mg/m ³)	4 mg/m ³
Yukon	OEL TWA (mg/m ³)	2 mg/m ³
Carbon dioxide (124-38-9)		
Mexico	OEL TWA (mg/m ³)	9000 mg/m ³
Mexico	OEL TWA (ppm)	5000 ppm
Mexico	OEL STEL (mg/m ³)	27000 mg/m ³
Mexico	OEL STEL (ppm)	15000 ppm
USA ACGIH	ACGIH TWA (ppm)	5000 ppm
USA ACGIH	ACGIH STEL (ppm)	30000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	9000 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	5000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	9000 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	5000 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	54000 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	30000 ppm
USA IDLH	US IDLH (ppm)	40000 ppm
Alberta	OEL STEL (mg/m ³)	54000 mg/m ³
Alberta	OEL STEL (ppm)	30000 ppm
Alberta	OEL TWA (mg/m ³)	9000 mg/m ³
Alberta	OEL TWA (ppm)	5000 ppm
British Columbia	OEL STEL (ppm)	15000 ppm
British Columbia	OEL TWA (ppm)	5000 ppm
Manitoba	OEL STEL (ppm)	30000 ppm
Manitoba	OEL TWA (ppm)	5000 ppm
New Brunswick	OEL STEL (mg/m ³)	54000 mg/m ³
New Brunswick	OEL STEL (ppm)	30000 ppm
New Brunswick	OEL TWA (mg/m ³)	9000 mg/m ³
New Brunswick	OEL TWA (ppm)	5000 ppm
Newfoundland & Labrador	OEL STEL (ppm)	30000 ppm
Newfoundland & Labrador	OEL TWA (ppm)	5000 ppm
Nova Scotia	OEL STEL (ppm)	30000 ppm
Nova Scotia	OEL TWA (ppm)	5000 ppm
Nunavut	OEL STEL (ppm)	30000 ppm
Nunavut	OEL TWA (ppm)	5000 ppm
Northwest Territories	OEL STEL (ppm)	30000 ppm
Northwest Territories	OEL TWA (ppm)	5000 ppm
Ontario	OEL STEL (ppm)	30000 ppm
Ontario	OEL TWA (ppm)	5000 ppm
Prince Edward Island	OEL STEL (ppm)	30000 ppm
Prince Edward Island	OEL TWA (ppm)	5000 ppm
Québec	VECD (mg/m ³)	54000 mg/m ³

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Québec	VECD (ppm)	30000 ppm
Québec	VEMP (mg/m ³)	9000 mg/m ³
Québec	VEMP (ppm)	5000 ppm
Saskatchewan	OEL STEL (ppm)	30000 ppm
Saskatchewan	OEL TWA (ppm)	5000 ppm
Yukon	OEL STEL (mg/m ³)	27000 mg/m ³
Yukon	OEL STEL (ppm)	15000 ppm
Yukon	OEL TWA (mg/m ³)	9000 mg/m ³
Yukon	OEL TWA (ppm)	5000 ppm
Limestone (1317-65-3)		
Mexico	OEL TWA (mg/m ³)	10 mg/m ³
Mexico	OEL STEL (mg/m ³)	20 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL STEL (mg/m ³)	20 mg/m ³ (total dust)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³ (Limestone, containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf 10 mg/m ³

8.2. Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. If product needs to be altered, use wet processing techniques to minimize generation of dust. Maintain sufficient mechanical or natural ventilation to assure silica concentrations remain below PEL/TLV. Use local exhaust if necessary. Power equipment should be equipped with properly designed dust collection devices. Ensure all national/local regulations are observed.

Personal Protective Equipment: For particulates and dust: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Dust resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: In case of excessive dust production: Safety glasses with side shields or goggles are recommended.

Skin and Body Protection: In case of excessive dust production: 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.

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Other Information: Do not breathe dust. 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	: Various colors: Black, Gray, Green, Purple, Red
Odor	: Not available
Odor Threshold	: Not available
pH	: Not applicable
Evaporation Rate	: Not applicable
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not applicable
Flash Point	: Not applicable
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 applicable
Relative Vapor Density at 20°C	: Not applicable
Relative Density	: Not available
Specific Gravity	: 2.8
Solubility	: Not available
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not applicable

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions. Quartz (silica) will dissolve in hydrofluoric acid producing a corrosive gas, silicon tetrafluoride.
- 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:** Incompatible materials. Generation of airborne dust.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers. Aggregate dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.
- 10.6. Hazardous Decomposition Products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced. Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870°C, it can change to a form of crystalline silica known as trypidite, and if crystalline silica (quartz) is heated to more than 1470°C, it can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as trypidite and cristobalite is one-half of the OSHA PEL for crystalline silica (quartz).

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

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Carcinogenicity: May cause cancer (Inhalation).

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

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation. 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.

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

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

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

Chronic Symptoms: For particulates and dust: May cause cancer by inhalation. Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation). 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. Pre-existing lung diseases such as emphysema or asthma may be aggravated by exposure to dusts. Pulmonary function may be reduced by inhalation of respirable crystalline silica. Lung scarring produced by such inhalation may lead to a progressive massive fibrosis of the lung which may aggravate other pulmonary conditions and diseases and which increases susceptibility to pulmonary tuberculosis. Progressive massive fibrosis may be accompanied by right heart enlargement, heart failure, and pulmonary failure. Smoking aggravates the effects of exposure.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
Aluminum oxide (Al2O3) (1344-28-1)	
LD50 Oral Rat	> 15900 mg/kg
LC50 Inhalation Rat	> 2.3 mg/l/4h No deaths were reported.
Iron oxide (FeO) (1345-25-1)	
LD50 Oral Rat	> 15 g/kg
Magnesium oxide (MgO) (1309-48-4)	
LD50 Oral Rat	3870 mg/kg
Iron oxide (Fe2O3) (1309-37-1)	
LD50 Oral Rat	> 10000 mg/kg
Calcium oxide (1305-78-8)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	> 2500 mg/kg
Quartz (14808-60-7)	
IARC Group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Iron oxide (Fe2O3) (1309-37-1)	
IARC Group	3

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Not classified.

Aluminum oxide (Al2O3) (1344-28-1)	
LC50 Fish 1	> 100 mg/l
EC50 Daphnia 1	> 100 mg/l
ErC50 (algae)	> 100 mg/l

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NOEC (Acute)	> 50 mg/l
Calcium oxide (1305-78-8)	
LC50 Fish 1	50.6 mg/l

12.2. Persistence and Degradability

North American Natural Slate	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

North American Natural Slate	
Bioaccumulative Potential	Not established.
Calcium oxide (1305-78-8)	
BCF Fish 1	(no bioaccumulation)
Carbon dioxide (124-38-9)	
BCF Fish 1	(no bioaccumulation)
Log Pow	0.83

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.

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

North American Natural Slate	
SARA Section 311/312 Hazard Classes	Health hazard – Carcinogenicity Health hazard - Specific target organ toxicity (single or repeated exposure)
Quartz (14808-60-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Aluminum oxide (Al₂O₃) (1344-28-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 % (fibrous forms)
Potassium oxide (12136-45-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Iron oxide (FeO) (1345-25-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Magnesium oxide (MgO) (1309-48-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Iron oxide (Fe₂O₃) (1309-37-1)	

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Listed on the United States TSCA (Toxic Substances Control Act) inventory
Calcium oxide (1305-78-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Carbon dioxide (124-38-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Sodium oxide (Na₂O) (1313-59-3)
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

15.2. US State Regulations

Quartz (14808-60-7)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

Quartz (14808-60-7)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Aluminum oxide (Al₂O₃) (1344-28-1)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Potassium oxide (12136-45-7)
U.S. - New Jersey - Right to Know Hazardous Substance List

Magnesium oxide (MgO) (1309-48-4)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Iron oxide (Fe₂O₃) (1309-37-1)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Calcium oxide (1305-78-8)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Carbon dioxide (124-38-9)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Limestone (1317-65-3)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

15.3. Canadian Regulations

Quartz (14808-60-7)
Listed on the Canadian DSL (Domestic Substances List)
Aluminum oxide (Al₂O₃) (1344-28-1)
Listed on the Canadian DSL (Domestic Substances List)

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Potassium oxide (12136-45-7)
Listed on the Canadian DSL (Domestic Substances List)
Iron oxide (FeO) (1345-25-1)
Listed on the Canadian DSL (Domestic Substances List)
Water (7732-18-5)
Listed on the Canadian DSL (Domestic Substances List)
Magnesium oxide (MgO) (1309-48-4)
Listed on the Canadian DSL (Domestic Substances List)
Iron oxide (Fe₂O₃) (1309-37-1)
Listed on the Canadian DSL (Domestic Substances List)
Calcium oxide (1305-78-8)
Listed on the Canadian DSL (Domestic Substances List)
Carbon dioxide (124-38-9)
Listed on the Canadian DSL (Domestic Substances List)
Sodium oxide (Na₂O) (1313-59-3)
Listed on the Canadian DSL (Domestic Substances List)
Limestone (1317-65-3)
Listed on the Canadian NDSL (Non-Domestic Substances List)

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

Date of Preparation or Latest Revision : 03/19/2018

Revision

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:

Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Carc. 1	Carcinogenicity, Category 1
Carc. 1A	Carcinogenicity Category 1A
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Press. Gas (Comp.)	Gases under pressure Compressed gas
Simple Asphy	Simple Asphyxiant
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H280	Contains gas under pressure; may explode if heated
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.