

WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC)	None known
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Feldspar		68476-25-5	52
Crystalline silica		14808-60-7	14
Limestone		1317-65-3	11
Nepheline syenite		37244-96-5	6
Carbonic acid, magnesium salt (1:1)		546-93-0	5
Kaolin		1332-58-7	4
Olivine, Cobalt Silicate Blue		68187-40-6	4
Chemical frits		65997-18-4	3
Titanium oxide		13463-67-7	0.2

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
Skin contact	IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see information on this label). Take off contaminated clothing and wash it before reuse.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse mouth. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious or is convulsing. Obtain medical attention.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Difficulty in breathing. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Hydrofluoric acid. Silicon tetrafluoride.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimize dust generation and accumulation. Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Do not discharge into lakes, streams, ponds or public waters.

7. Handling and Storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Avoid prolonged exposure. Wear appropriate personal protective equipment. Should be handled in closed systems, if possible. Wash thoroughly after handling. Observe good industrial hygiene practices. Use good industrial hygiene practices in handling this material. When using do not eat or drink.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children.

8. Exposure Controls/Personal Protection

Occupational exposure limits

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Crystalline silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable particles.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable.
Limestone (CAS 1317-65-3)	TWA	10 mg/m3	
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)	TWA	0.02 mg/m3	
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m3	

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Crystalline silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable.
Limestone (CAS 1317-65-3)	STEL	20 mg/m3	Total dust.
	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Total dust.
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)	TWA	0.02 mg/m3	
Titanium oxide (CAS 13463-67-7)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Total dust.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Crystalline silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)	TWA	0.02 mg/m3	
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m3	

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Crystalline silica (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Nepheline syenite (CAS 37244-96-5)	TWA	10 mg/m3	Total dust.
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)	TWA	0.02 mg/m3	
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m3	

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Carbonic acid, magnesium salt (1:1) (CAS 546-93-0)	TWA	10 mg/m3	Total dust.
Crystalline silica (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable dust.
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Respirable dust.
Limestone (CAS 1317-65-3)	TWA	10 mg/m3	Total dust.
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)	TWA	0.02 mg/m3	
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m3	Total dust.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Carbonic acid, magnesium salt (1:1) (CAS 546-93-0)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Crystalline silica (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.
Kaolin (CAS 1332-58-7)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Limestone (CAS 1317-65-3)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Titanium oxide (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Crystalline silica (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Titanium oxide (CAS 13463-67-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Crystalline silica (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m ³	Respirable fraction.
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)	TWA	0.02 mg/m ³	
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m ³	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Carbonic acid, magnesium salt (1:1) (CAS 546-93-0)	TWA	5 mg/m ³	Respirable.
		10 mg/m ³	Total
Crystalline silica (CAS 14808-60-7)	TWA	0.05 mg/m ³	Respirable dust.
Kaolin (CAS 1332-58-7)	TWA	5 mg/m ³	Respirable.
		10 mg/m ³	Total
Limestone (CAS 1317-65-3)	TWA	5 mg/m ³	Respirable.
		10 mg/m ³	Total

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)	15 µg/l	Cobalt	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines	Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Impervious gloves. Confirm with reputable supplier first.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).
Thermal hazards	Not applicable.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace. When using do not eat or drink.

9. Physical and Chemical Properties

Appearance	Powder.
Physical state	Solid.
Form	Powder.
Color	grey
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.

Pour point	Not available.
Specific gravity	Not available.
Partition coefficient (n-octanol/water)	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and Reactivity

Reactivity	This product may react with strong oxidizing agents.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Acids. Powerful oxidizers. Fluorine. Chlorine.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Silicon tetrafluoride. Hydrofluoric acid.

11. Toxicological Information

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.	
Information on likely routes of exposure		
Ingestion	May cause stomach distress, nausea or vomiting.	
Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Dust may irritate respiratory system.	
Skin contact	Dust or powder may irritate the skin. May cause an allergic skin reaction.	
Eye contact	Causes serious eye irritation.	
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Difficulty in breathing. May cause an allergic skin reaction. Dermatitis. Rash.	
Information on toxicological effects		
Acute toxicity	May cause respiratory irritation. May cause an allergic skin reaction.	
Components	Species	Test Results
Carbonic acid, magnesium salt (1:1) (CAS 546-93-0)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	

Components	Species	Test Results
<i>Oral</i> LD50	Not available Rat	> 2000 mg/kg, ECHA
Chemical frits (containing lead) (CAS 65997-18-4)		
Acute		
<i>Dermal</i> LD50	Rat	> 2000 mg/kg, 24 Hours
<i>Inhalation</i> LC50	Mouse Mouse, Rat Rabbit Rat	> 9 mg/m3, 15 Minutes, ECHA > 1 mg/m3, 3 Hours, ECHA > 22.4 mg/m3, 15 Minutes, ECHA > 4.5 mg/m3, 2 Hours, ECHA > 8.6 mg/m3, 30 Minutes, ECHA > 4.6 mg/m3, 3 Hours, ECHA > 4.5 mg/m3, 2 Hours, ECHA > 1.9 mg/L, 4 Hours, ECHA 112 mg/m3, 2 Hours, ECHA 4.4 mg/L, 4 Hours, ECHA 2.2 mg/L, 4 Hours, ECHA
<i>Oral</i> LD50	Mouse Mouse, Rat Rat	890 mg/kg, ECHA 63 mg/kg, ECHA 41 mg/kg, ECHA 7.7 mg/kg, ECHA > 11000 mg/kg, ECHA > 5000 mg/kg, ECHA > 2000 mg/kg, ECHA 63 - 259 mg/kg, ECHA 9990 mg/kg, ECHA 8796 mg/kg, ECHA 2330 mg/kg, ECHA 314 mg/kg, ECHA 300 - 2000 mg/kg, ECHA 221 mg/kg, ECHA
Crystalline silica (CAS 14808-60-7)		
Acute		
<i>Dermal</i> LD50	Not available	
<i>Inhalation</i> LC50	Not available	
<i>Oral</i> LD50	Rat	500 mg/kg, HSDB, IV only
Feldspar (CAS 68476-25-5)		
Acute		
<i>Dermal</i> LD50	Not available	
<i>Inhalation</i> LC50	Not available	
<i>Oral</i> LD50	Not available	

Components	Species	Test Results
Kaolin (CAS 1332-58-7)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 5000 mg/kg, HSDB
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, HSDB 14900 mg/kg, Gelest
Limestone (CAS 1317-65-3)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	6450 mg/kg, SPI Pharma
Nepheline syenite (CAS 37244-96-5)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Not available	
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Rat	> 5.3 mg/L, 4 Hours, ECHA
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg, ECHA 1830 mg/kg, ECHA 1630 mg/kg, ECHA 1480 mg/kg, ECHA
Titanium oxide (CAS 13463-67-7)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Rat	> 6.8 mg/L, 4 Hours, ECHA > 3.6 mg/l/4h, ECHA > 3.6 mg/L, 4 Hours, ECHA > 2.3 mg/L, 4 Hours, ECHA 5.1 mg/L, 4 Hours, ECHA 3.4 mg/L, 4 Hours, ECHA
<i>Oral</i>		
LD50	Mouse	> 5000 mg/kg, ECHA
	Rat	> 25000 mg/kg, ECHA > 11000 mg/kg, ECHA > 5000 mg/kg, ECHA

Components	Species	Test Results
		> 2000 mg/kg, ECHA
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
Exposure minutes	Not available.	
Erythema value	Not available.	
Oedema value	Not available.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Corneal opacity value	Not available.	
Iris lesion value	Not available.	
Conjunctival reddening value	Not available.	
Conjunctival oedema value	Not available.	
Recover days	Not available.	
Respiratory or skin sensitization		
Canada - Alberta OELs: Irritant		
Cristobalite (CAS 14464-46-1)	Irritant	
Limestone (CAS 1317-65-3)	Irritant	
Titanium oxide (CAS 13463-67-7)	Irritant	
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Skin sensitization	May cause an allergic skin reaction.	
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	<p>May cause cancer.</p> <p>In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)</p> <p>In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003)</p> <p>According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits.</p> <p>Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.</p> <p>High concentrations of pigment-grade (powdered) and ultrafine titanium dioxide (titanium oxide) dust have caused respiratory tract cancer in rats exposed by inhalation and intratracheal instillation.</p>	
ACGIH Carcinogens		
Cristobalite (CAS 14464-46-1)	A2 Suspected human carcinogen.	
Crystalline silica (CAS 14808-60-7)	A2 Suspected human carcinogen.	
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)	A3 Confirmed animal carcinogen with unknown relevance to humans.	
Canada - Alberta OELs: Carcinogen category		
Cristobalite (CAS 14464-46-1)	Suspected human carcinogen.	
Crystalline silica (CAS 14808-60-7)	Suspected human carcinogen.	
Canada - Manitoba OELs: carcinogenicity		
Cobalt and inorganic compounds, as Co (CAS 68187-40-6)	Confirmed animal carcinogen with unknown relevance to humans.	
SILICA, CRYSTALLINE-.ALPHA.-QUARTZ, RESPIRABLE FRACTION (CAS 14808-60-7)	Suspected human carcinogen.	
SILICA, CRYSTALLINE-CRISTOBALITE, RESPIRABLE FRACTION (CAS 14464-46-1)	Suspected human carcinogen.	
Canada - Quebec OELs: Carcinogen category		
Cristobalite (CAS 14464-46-1)	Detected carcinogenic effect in animals.	
Crystalline silica (CAS 14808-60-7)	Suspected carcinogenic effect in humans.	
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)	Detected carcinogenic effect in animals.	

IARC Monographs. Overall Evaluation of Carcinogenicity

Cristobalite (CAS 14464-46-1)	Volume 68, Volume 100C 1 Carcinogenic to humans.
Crystalline silica (CAS 14808-60-7)	Volume 68, Volume 100C 1 Carcinogenic to humans.
Olivine, Cobalt Silicate Blue (CAS 68187-40-6)	Volume 52 - 2B Possibly carcinogenic to humans.
Titanium oxide (CAS 13463-67-7)	Volume 47, Volume 93 - 2B Possibly carcinogenic to humans.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Crystalline silica (CAS 14808-60-7)
Titanium oxide (CAS 13463-67-7)

US NTP Report on Carcinogens: Anticipated carcinogen

Cristobalite (CAS 14464-46-1) Reasonably Anticipated to be a Human Carcinogen.

US NTP Report on Carcinogens: Known carcinogen

Cristobalite (CAS 14464-46-1) Known To Be Human Carcinogen.
Crystalline silica (CAS 14808-60-7) Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Cristobalite (CAS 14464-46-1) Cancer
Crystalline silica (CAS 14808-60-7) Cancer

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Teratogenicity	Not available.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects:	Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. Prolonged or repeated exposure to fine airborne crystalline silica dust may cause severe scarring of the lungs, a disease called silicosis. Early symptoms of silicosis include cough, mucous production and shortness of breath upon exertion.

12. Ecological Information

Ecotoxicity See below

Ecotoxicological data

Components

Titanium oxide (CAS 13463-67-7)

Aquatic

	Species	Test Results
Crustacea	Water flea (Daphnia magna)	> 1000 mg/L, 48 hours
Fish	Mummichog (Fundulus heteroclitus)	> 1000 mg/L, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Mobility in general Not available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

Transport of Dangerous Goods (TDG) Proof of Classification In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue.

U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Canada CEPA Schedule I: Listed substance

Cristobalite (CAS 14464-46-1) Listed.
Kaolin (CAS 1332-58-7) Listed.
Titanium oxide (CAS 13463-67-7) Listed.

Canada DSL Challenge Substances: Listed substance

Cristobalite (CAS 14464-46-1) Listed.
Crystalline silica (CAS 14808-60-7) Listed.

Canada Priority Substances List (Second List): Listed substance

Kaolin (CAS 1332-58-7) Listed.
Titanium oxide (CAS 13463-67-7) Listed.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions Not applicable

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Olivine, Cobalt Silicate Blue (CAS 68187-40-6) Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Cristobalite (CAS 14464-46-1) Cancer
Crystalline silica (CAS 14808-60-7) Cancer
Cristobalite (CAS 14464-46-1) lung effects
Crystalline silica (CAS 14808-60-7) lung effects
Cristobalite (CAS 14464-46-1) immune system effects
Crystalline silica (CAS 14808-60-7) immune system effects
Cristobalite (CAS 14464-46-1) kidney effects
Crystalline silica (CAS 14808-60-7) kidney effects

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting) Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Olivine, Cobalt Silicate Blue (CAS 68187-40-6)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

US state regulations See below

US - California Hazardous Substances (Director's): Listed substance

Olivine, Cobalt Silicate Blue (CAS 68187-40-6) Listed.

US - Illinois Chemical Safety Act: Listed substance

Olivine, Cobalt Silicate Blue (CAS 68187-40-6)

US - Louisiana Spill Reporting: Listed substance

Olivine, Cobalt Silicate Blue (CAS 68187-40-6) Listed.

US - Minnesota Haz Subs: Listed substance

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

Cristobalite (CAS 14464-46-1) Listed.

Crystalline silica (CAS 14808-60-7) Listed.

Kaolin (CAS 1332-58-7) Listed.

Limestone (CAS 1317-65-3) Listed.

Olivine, Cobalt Silicate Blue (CAS 68187-40-6) Listed.

Titanium oxide (CAS 13463-67-7) Listed.

US - New Jersey RTK - Substances: Listed substance

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

Cristobalite (CAS 14464-46-1)

Crystalline silica (CAS 14808-60-7)

Kaolin (CAS 1332-58-7)

Limestone (CAS 1317-65-3)

Olivine, Cobalt Silicate Blue (CAS 68187-40-6)

Titanium oxide (CAS 13463-67-7)

US - Texas Effects Screening Levels: Listed substance

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

Chemical frits (containing lead) (CAS 65997-18-4) Listed.

Cristobalite (CAS 14464-46-1) Listed.

Crystalline silica (CAS 14808-60-7) Listed.

Feldspar (CAS 68476-25-5) Listed.

Kaolin (CAS 1332-58-7) Listed.

Limestone (CAS 1317-65-3) Listed.

Nepheline syenite (CAS 37244-96-5) Listed.

Titanium oxide (CAS 13463-67-7) Listed.

US - Washington Chemical of High Concern to Children: Listed substance

Olivine, Cobalt Silicate Blue (CAS 68187-40-6)

US. Massachusetts RTK - Substance List

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

Cristobalite (CAS 14464-46-1)

Crystalline silica (CAS 14808-60-7)

Kaolin (CAS 1332-58-7)

Limestone (CAS 1317-65-3)

Titanium oxide (CAS 13463-67-7)

US. New Jersey Worker and Community Right-to-Know Act

Olivine, Cobalt Silicate Blue (CAS 68187-40-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Cristobalite (CAS 14464-46-1)

Crystalline silica (CAS 14808-60-7)

Kaolin (CAS 1332-58-7)

Limestone (CAS 1317-65-3)

Olivine, Cobalt Silicate Blue (CAS 68187-40-6)

Titanium oxide (CAS 13463-67-7)

US. Rhode Island RTK

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

Cristobalite (CAS 14464-46-1)

Crystalline silica (CAS 14808-60-7)

Kaolin (CAS 1332-58-7)

Limestone (CAS 1317-65-3)

Titanium oxide (CAS 13463-67-7)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Crystalline silica (CAS 14808-60-7) Listed: October 1, 1988

Titanium oxide (CAS 13463-67-7) Listed: September 2, 2011

Inventory status

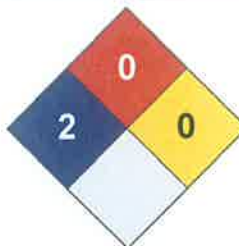
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	*	2
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION		X



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

Issue date

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Version

01

Effective date

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Prepared by

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Other information

For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.