

## SAFETY DATA SHEET

	1. Product and Company Ide	entification
Product identifier	Mid White	
Other means of identification	Not available	
Recommended use	Modelling Clay	
Recommended restrictions	None known.	
Manufacturer information Supplier	Tucker's Pottery Supplies Inc., Cone Art Kilns Inc. 15 West Pearce Street Richmond Hill, ON L4B 1H6 CA Phone: Toll Free 1-800-304-6185 Phone: 905-889-7705 Emergency Phone Number: 613-996-6666 See above.	(CANUTEC)
	2. Hazards Identificat	ion
Physical hazards	Not classified.	
Health hazards	Carcinogenicity	Category 1A
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	
Label elements		
Signal word	Danger	
Hazard statement	May cause cancer. Causes damage to orga	ans through prolonged or repeated exposure.
Precautionary statement		
Prevention	and understood. Wear protective gloves/pro	not handle until all safety precautions have been read otective clothing/eye protection/face protection. Do not Vash thoroughly after handling. Do not eat, drink or
Response	IF exposed or concerned: Get medical advi Get medical advice/attention if you feel unv	
Storage	Store locked up.	
Disposal	Dispose of contents/container in accordanc	e with local/regional/national/international regulations.
WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC)	None known	
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

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Chemical name	Common name and synonyms	CAS number	%
Kaolin		1332-58-7	61
Crystalline silica		14808-60-7	24
Nepheline syenite		37244-96-5	12

Mixture

Chemical name	Common name and synonyms	CAS number	%
Titanium oxide		13463-67-7	2
Cristobalite		14464-46-1	1

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 symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Skin contact	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.
Eye contact	Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medica attention if irritation persists.
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	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. 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: Silicon tetrafluoride. Hydrofluoric acid.
	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. Ensure adequate ventilation. Loca 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	Stop the flow of material, if this is without risk. Following product recovery, flush area with water. 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. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. When using, do not eat, drink or smoke. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash thoroughly after handling. Use good industrial hygiene practices in handling this material. When using do not eat o drink.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children.

#### **Occupational exposure limits**

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

Components	Туре	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0.025 mg/m3	Respirable particles.
,		0.025 mg/m3	Respirable.
Crystalline silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable particles.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable.
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	Туре	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0.025 mg/m3	Respirable fraction.
Crystalline silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable.
Titanium oxide (CAS 13463-67-7)	TWA	3 mg/m3	Respirable fraction.
,		10 mg/m3	Total dust.
Canada. Manitoba OELs (Reg. 2 <sup>,</sup>	17/2006, The Workplace Safety	And Health Act)	

Components	Туре	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0.025 mg/m3	Respirable fraction.
Crystalline silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m3	

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

Components	Туре	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0.05 mg/m3	Respirable fraction.
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.
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	Туре	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0.05 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.
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m3	Total dust.
US. OSHA Table Z-1 Limits for A	Air Contaminants (29 CFR 1910.1000)		
Components	Туре	Value	Form
Cristobalite (CAS 14464-46-1)	PEL	0.05 mg/m3	Respirable dust.
Crystalline silica (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.

Components	Туре	Value	Form
Kaolin (CAS 1332-58-7)	PEL	5 mg/m3 15 mg/m3	Respirable fraction. Total dust.
Titanium oxide (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.
US. OSHA Table Z-3 (29 Cl			_
Components	Туре	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0.05 mg/m3	Respirable.
		1.2 mppcf	Respirable.
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 Limi Components	it Values Type	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0.025 mg/m3	Respirable fraction.
Crystalline silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m3	
US. NIOSH: Pocket Guide Components		Value	Form
•	Туре		
Crystalline silica (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3 10 mg/m3	Respirable. Total
ogical limit values	No biological exposure limits noted for	the ingredient(s).	
osure guidelines	Occupational exposure to nuisance du should be monitored and controlled.	ust (total and respirable) and re	spirable crystalline silica
propriate engineering trols	Good general ventilation (typically 10 should be matched to conditions. If ap or other engineering controls to mainta exposure limits have not been establis	plicable, use process enclosur ain airborne levels below recon	es, local exhaust ventilation nmended exposure limits. I
vidual protection measures Eye/face protection	s, such as personal protective equipme Wear safety glasses with side shields.		
Skin protection			
Hand protection	Impervious gloves. Confirm with reput	table supplier first.	
Other			ver code.
Respiratory protection	Use of an impervious apron is recommended. As required by employer code. 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).		d NIOSH respirator. ained health and safety lard (29 CFR 1910.134),
Thermal hazards	Not applicable.		,
eral hygiene	Always observe good personal hygien		after handling the material othing and protective

## 9. Physical and Chemical Properties

Appearance	Moist mud
Physical state	Solid.
Form	Solid.
Color	grey
Odor	Earthy
Odor threshold	Not available.
рН	6 - 8
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 exp	losive 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	Do not mix with other chemicals.
Incompatible materials	Powerful oxidizers. Chlorine.
Hazardous decomposition products	May include and are not limited to: Hydrofluoric acid. Silicon tetrafluoride.

## 11. Toxicological Information

Routes of exposure	Inhalation. Eye, Skin contact, Inhalation, Ingestion.	
Information on likely routes of exposure		
Ingestion	May cause stomach distress, nausea or vomiting.	
Inhalation	Prolonged inhalation may be harmful.	
Skin contact	No adverse effects due to skin contact are expected.	
Eye contact	Direct contact with eyes may result in mechanical irritation.	

Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause	temporary irritation.
Information on toxicological	effects	
Acute toxicity		
Components	Species	Test Results
Cristobalite (CAS 14464-46-1)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, 24 Hours, ECHA
		> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Not available	
Oral		
LD50	Mouse	> 15000 mg/kg, HSDB
	Rat	> 22500 mg/kg, HSDB
Crystalline silica (CAS 14808-6	60-7)	
Acute		
Dermal		
LD50	Not available	
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	500 mg/kg, HSDB, IV only
Kaolin (CAS 1332-58-7)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg, HSDB
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	> 5000 mg/kg, HSDB
		14900 mg/kg, Gelest
Nepheline syenite (CAS 37244	-96-5)	
Acute		
Dermal		
LD50	Not available	
Inhalation		
LC50	Not available	
Oral		
LD50	Not available	
Titanium oxide (CAS 13463-67	<sup>7</sup> -7)	
Acute		
Dermal		
LD50	Not available	
Inhalation		
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
Oral	Mayaa	
LD50	Mouse	> 5000 mg/kg, ECHA

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.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) conclude 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 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) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored a controlled. 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. ACGIH Carcinogens Cristobalite (CAS 14464-46-1) A2 Suspected human carcinogen.	Components Skin corrosion/irritation Exposure minutes Erythema value Oedema value Serious eye damage/eye irritation	SpeciesTest ResultsRat> 25000 mg/kg, ECHA> 11000 mg/kg, ECHA> 5000 mg/kg, ECHA> 5000 mg/kg, ECHA> 2000 mg/kg, ECHA> 2000 mg/kg, ECHA> 1000 mg/kg, ECHANot available.> 1000 mg/k		
Conjunctival reddening value       Not available.         Conjunctival cedema value       Not available.         Recover days       Not available.         Respiratory or skin sensitization       Initiant         Cristobalite (CAS 13464-46-1)       Initiant         Titanium oxide (CAS 13463-67-7)       Initiant         Respiratory sensitization       Not available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       May cause cancer.         In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silic 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 optimal evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)         In June 2003, SCOEL (the EU Scientific Committee on Occupational exposure limits) corround the earner isduction of the evaluation of the carcinogenic is solicosis will also reduce the cancer risk" (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection algons sullicosis is can be consistently assured by respecting the existing regulatory occupational exposure limits. Cocupational exposure limits. Coccupational exposure i mats exposed by inhalati	Corneal opacity value	Not available.		
value       Originatival oedema value       Not available.         Recover days       Not available.         Respiratory or skin sensitization       Not available.         Canada - Alberta OELs: Irritant       Irritant         Cristobalite (CAS 14464-46-1)       Irritant         Titanium oxide (CAS 14464-46-1)       Irritant         Respiratory sensitization       Not a respiratory sensitization.         Mutagenicity       No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       May cause cancer.         In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silic 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 the valuation of the scarologenic is so on external factors affecting the valuation of the scarologenic silica dust is silicosis. "There is sufficient information to conclude that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis." There is sufficient information to conclude that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the carcinogenic industry. Therefore, preventing the onset of silicosis and be correntised of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory	Iris lesion value			
Recover days       Not available.         Respiratory or skin sensitization       Canada - Alberta OELs: Irritant         Cristobalite (CAS 14464-46-1)       Irritant         Titanium oxide (CAS 13463-67-7)       Irritant         Respiratory sensitization       Not a respiratory sensitizer.         Skin sensitization       Not a respiratory sensitizer.         Skin sensitization       Not available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       May cause cancer.         In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline slite 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 carcinspencity mans, Slices exposed to 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 can be consistently assured by respecting the existing regulatory occupational exposure Limits. Coccupational exposure Limits. Coccupational exposure limits.         Docting to the current state of the art, worker prote	value			
Respiratory or skin sensitization       Initiant         Canada - Alberta OELs: Irritant       Irritant         Cristoballite (CAS 14464-46-1)       Irritant         Titanium oxide (CAS 13463-67-7)       Irritant         Respiratory sensitization       Not a respiratory sensitizer.         Skin sensitization       This product is not expected to cause skin sensitization.         Mutagenicity       No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       May cause cancer.         In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silic inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was to detected in all industrial circumstances studied. Carcinogenicity way 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, Silicase dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)         In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) conclude that the main effect in humans of the inhalation of respirable crystalline silico is earoesed in persons with silicosis (and, apparently, not in employees without silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure limits. Occupational exposure limits. Occupational exposure to respirable crystalline silicos is can be consistently a	-			
Canada - Alberta OELs: Irritant       Cristobalite (CAS 14464-46-1)       Irritant         Cistobalite (CAS 13463-67-7)       Irritant         Respiratory sensitization       Not a respiratory sensitizer.         Skin sensitization       This product is not expected to cause skin sensitization.         Mutagenicity       No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       May cause cancer.         In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silic 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 and the 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.)         In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) conclude that the main effect in humans of the inhalation of respirable crystalline silica stilicosis will also reduct the cancer risk" (SCOEL SUM Doc 94-final, June 2003)         According to the current state of the art, worker protection alganst silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure limits.         Stotalite (CAS 14464-46-1)       High concentrations of pigment-grade (powdered) and ultr	Recover days	Not available.		
Cristobalite (CAS 14464-6f-1)       Irritant         Titanium oxide (CAS 13463-67-7)       Irritant         Respiratory sensitization       Not ar espiratory sensitizer.         Skin sensitization       This product is not expected to cause skin sensitization.         Mutagenicity       No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       May cause cancer.         In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silic 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 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.)         In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) conclude 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 can be consistently assured by respecting the existing regulatory occupational against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored a controlled. High concentrations of pigment-grade (powdered) and ultrafine ttanium dioxide (titanium oxide)				
Titanium oxide (CAS 13463-67-7)       Irritant         Respiratory sensitization       Not a respiratory sensitizer.         Skin sensitization       This product is not expected to cause skin sensitization.         Mutagenicity       No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       May cause cancer.         In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silic 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.)         In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicos is can be consistently assured by respecting the existing regulatory occupational aginst silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored a controlled.         Hipt 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.				
Skin sensitization       This product is not expected to cause skin sensitization.         Mutagenicity       No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       May cause cancer.         In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silic or 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.)         In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) conclude that the main effect in humans of the inhalation of respirable crystalline silico adust 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 silic adust quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduct the cancer risk" (SOOEL SUM Doc 94-final, June 2003)         According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored a controlled.         High concentrations of pigment-grade (powdered) and ultrafine titanium dioxide (titanium oxide) dust have caused respiratory tract cancer in r	Titanium oxide (CAS 1346	63-67-7)		
Mutagenicity       No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.         Carcinogenicity       May cause cancer.         In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silic inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carinogenicity was not detected in all industrial circumstances studied. Carcinogenicity was 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.)         In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) conclude that the main effect in humans of the inhalation of respirable crystalline silicos dust quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduct the cancer risk" (SCOEL SUM Doc 94-final, June 2003)         According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure limits.       Occupational exposure to respirable dust and respirable crystalline silica should be monitored a controlled.         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.         Accoll Carcinogens       At Suspected human carcinogen.				
Carcinogenicity       May cause cancer.         In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silic 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, silica is dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)         In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) conclude that the main effect in humans of the inhalation of respirable crystalline silica silica 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 quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduc the cancer risk" (SCOEL SUM Doc 94-final, June 2003)         According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure limits. Occupational exposure limits.         According to the current state of prespirable dust and respirable crystalline silica should be monitored a controlled.         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.         ACGIH Carcinogens				
In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silic 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.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) conclude 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 quarries and in the ceramic industry). Therefore, preventing the onset of silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored a controlled. 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. <b>ACGIH Carcinogens</b> Cristobalite (CAS 14464-46-1) Alg Suspected human carcinogen.		mutagenic or genotoxic.		
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.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) conclude 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 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) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored a controlled. 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. ACGIH Carcinogens Cristobalite (CAS 14464-46-1) A2 Suspected human carcinogen.	Carcinogenicity	May cause cancer.		
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 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) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored a controlled. 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.ACGIH Carcinogens Cristobalite (CAS 14464-46-1)A2 Suspected human carcinogen.		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		
Cristobalite (CAS 14464-46-1) A2 Suspected human carcinogen.		<ul> <li>"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)</li> <li>According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits.</li> <li>Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.</li> <li>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</li> </ul>		
	ACGIH Carcinogens			
	5		A2 Suspected humar	n carcinogen.
	Crystalline silica (CAS 14808-60-7)		A2 Suspected humar	n carcinogen.
Canada - Alberta OELs: Carcinogen category			Successfed human as	rainagan
	Cristobalite (CAS 14464-46-1) Crystalline silica (CAS 14808-60-7)			
Canada - Manitoba OELs: carcinogenicity	<b>U</b> -			
SILICA, CRYSTALLINEALPHAQUARTZ, RESPIRABLE FRACTION (CAS 14808-60-7) SILICA, CRYSTALLINE-CRISTOBALITE, RESPIRABLE FRACTION (CAS 14464-46-1)	SILICA, CRYSTALLINEALPHAQUARTZ, RESPIRABLE FRACTION (CAS 14808-60-7) SILICA, CRYSTALLINE-CRISTOBALITE, RESPIRABLE			-
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.			0	

IARC Monographs. Overall E	Evaluation of Carcinogenicity	
		Volume 68, Volume 100C 1 Carcinogenic to humans. Volume 68, Volume 100C 1 Carcinogenic to humans.
Silica (CAS 7631-86-9)		Volume 68 - 3 Not classifiable as to carcinogenicity to humans.
Titanium oxide (CAS 134)		Volume 47, Volume 93 - 2B Possibly carcinogenic to humans.
US - California Proposition 6	5 - CRT: Listed date/Carcino	genic substance
Crystalline silica (CAS 14 Titanium oxide (CAS 134		
US NTP Report on Carcinog	ens: Anticipated carcinogen	
Cristobalite (CAS 14464-4	46-1)	Reasonably Anticipated to be a Human Carcinogen.
US NTP Report on Carcinog	ens: Known carcinogen	
Cristobalite (CAS 14464-4	46-1)	Known To Be Human Carcinogen.
Crystalline silica (CAS 14	,	Known To Be Human Carcinogen.
US. OSHA Specifically Regu	lated Substances (29 CFR 19	10.1001-1050)
Cristobalite (CAS 14464-4	/	Cancer
Crystalline silica (CAS 14		Cancer
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Teratogenicity	Not available.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Causes damage to organs th	rough prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Causes damage to organs through prolonged or repeated exposure. 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. Ecologi	cal Information
Ecotoxicity	See below	
Ecotoxicological data		
Components	Species	Test Results
Titanium oxide (CAS 13463-67-7)		

	/		
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/L, 48 hours
Fish	LC50	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		

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. Transport of Dangerous Goods (TDG) Proof of Classification

### 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

	15. Regul	atory information
Canadian federal regulations	This product has been cla contains all the information	ssified in accordance with the hazard criteria of the HPR and the SDS n required by the HPR.
Canada CEPA Schedule I: L	isted substance	
Cristobalite (CAS 14464- Kaolin (CAS 1332-58-7) Titanium oxide (CAS 134 Canada DSL Challenge Sub	63-67-7)	Listed. Listed. Listed.
Cristobalite (CAS 14464-	46-1)	Listed.
Crystalline silica (CAS 14	,	Listed.
Canada Priority Substances	List (Second List): Listed	
Kaolin (CAS 1332-58-7) Titanium oxide (CAS 134 Export Control List (CEPA 1		Listed.
Not listed.		
Greenhouse Gases		
Not listed.		
Precursor Control Regulation	ons	
Not regulated.	Natannliaghla	
WHMIS 2015 Exemptions	Not applicable	
US federal regulations	Standard, 29 CFR 1910.1	
TSCA Section 12(b) Export	Notification (40 CFR 707, S	Subpt. D)
Not regulated. CERCLA Hazardous Substa	nce List (40 CFR 302.4)	
Not listed.		
US. OSHA Specifically Regu	lated Substances (29 CFR	1910.1001-1050)
Cristobalite (CAS 14464- Crystalline silica (CAS 14 Cristobalite (CAS 14464- Crystalline silica (CAS 14 Cristobalite (CAS 14464- Crystalline silica (CAS 14 Cristobalite (CAS 14464- Crystalline silica (CAS 14	808-60-7) 46-1) 808-60-7) 46-1) 808-60-7) 46-1)	Cancer Cancer lung effects lung effects immune system effects immune system effects kidney effects kidney effects
Superfund Amendments and Re	authorization 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 Polluta	ants (HAPs) List
Not regulated. Clean Air Act (CAA) Section	112(r) Accidental Release	Prevention (40 CFR 68.130)
Not regulated.		
US state regulations	See below	
US - California Hazardo	us Substances (Director's)	): Listed substance
Silica (CAS 7631-86		Listed.
US - Minnesota Haz Sub		
Cristobalite (CAS 14	464-46-1)	Listed.

Crystalline silica (CA		Listed.	
Kaolin (CAS 1332-58		Listed.	
Silica (CAS 7631-86- Titanium oxide (CAS	,	Listed. Listed.	
	Substances: Listed substa		
Cristobalite (CAS 14			
Crystalline silica (CA	,		
Kaolin (CAS 1332-58	,		
Silica (CAS 7631-86-	-		
Titanium oxide (CAS	ening Levels: Listed subs	tanco	
Cristobalite (CAS 14	•	Listed.	
Crystalline silica (CA	,	Listed.	
Kaolin (CAS 1332-58	,	Listed.	
Nepheline syenite (C		Listed.	
Silica (CAS 7631-86-		Listed.	
Titanium oxide (CAS US. Massachusetts RTM	,	Listed.	
Cristobalite (CAS 14			
Crystalline silica (CA			
Kaolin (CAS 1332-58			
Silica (CAS 7631-86-	/		
Titanium oxide (CAS	and Community Right-to-	Know Act	
Not regulated.		-Know Act	
	er and Community Right-t	to-Know Law	
Cristobalite (CAS 14			
Crystalline silica (CA	,		
Kaolin (CAS 1332-58	,		
Silica (CAS 7631-86-			
Titanium oxide (CAS US. Rhode Island RTK	13403-07-7)		
Cristobalite (CAS 14	464-46-1)		
Crystalline silica (CA			
Kaolin (CAS 1332-58			
Titanium oxide (CAS	13463-67-7)		
US. California Proposition 6	5		
WARNING: This product	contains a chemical known	to the State of California to cause cancer	
US - California Proposit	ion 65 - CRT: Listed date/	Carcinogenic substance	
Crystalline silica (CA	,	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 Lis		Yes
Canada	Non-Domestic Substance	· · · · ·	No
United States & Puerto Rico	Toxic Substances Control		Yes
*A "Yes" indicates that all compor	ents of this product comply wit	th the inventory requirements administered by	the governing country(s)
	16. Otl	her Information	
LEGEND			
	HEALTH <b>*</b> 1	0	
Severe 4 Serious 3			
Moderate 2	PHYSICAL HAZARD 0		
Slight 1			

Х

Slight

Minimal

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.
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Version #	01
Effective date	07-February-2018
Prepared by	Dell Tech Laboratories Ltd. Phone: (519) 858-5021
Other information	For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.