

Safety Data Sheet

Firestone Building Products Company

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking**1.1 Product identifier****Product Name** • AcryliTop™ Base Coat for Asphalt**1.2 Relevant identified uses of the substance or mixture and uses advised against****Relevant identified use(s)** • Construction**1.3 Details of the supplier of the safety data sheet****Manufacturer** • Firestone Building Products Company200 4th Avenue S
Nashville, TN 37201-2208
United States

firestonemsds@bfdp.com

Telephone (General) • 800-428-4442**1.4 Emergency telephone number****Manufacturer** • (800) 424-9300 - CHEMTREC**Manufacturer** • (703) 527-3887 - CHEMTREC - International**Section 2: Hazards Identification****EU/EEC**

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture**CLP** • Not classified**DSD/DPD** • Not classified**2.2 Label Elements****CLP****Hazard statements** • No label element(s) required**DSD/DPD****Risk phrases** • No label element(s) required**2.3 Other Hazards****CLP** • According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.**DSD/DPD** • According to European Directive 1999/45/EC this preparation is not considered dangerous.**United States (US)**

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 • Not classified

2.2 Label elements

OSHA HCS 2012

Hazard statements • No label element(s) required

2.3 Other hazards

OSHA HCS 2012

- This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS • Not classified

2.2 Label elements

WHMIS

- No label element(s) required.

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Limestone	CAS:1317-65-3 EC Number:215-279-6	25% TO 35%	NDA	EU DSD/DPD: Self Classified: Xn R48/20 EU CLP: Self Classified: STOT RE 2 (Lung, Inhl), H373 OSHA HCS 2012: STOT RE 2 (Lungs, Inhl)	NDA
Acrylic polymer blend	NDA	15% TO 25%	NDA	EU DSD/DPD: Not Classified EU CLP: Not Classified OSHA HCS 2012: Not Classified	NDA
Titanium dioxide	CAS:13463-67-7 EC Number:236-675-5	5% TO 10%	NDA	EU DSD/DPD: Self Classified: Mut. Cat. 3 R68 Carc. Cat. 3 Xn R40 EU CLP: Self Classified: Muta. 2, H341; Carc. 2, H351; STOT RE 2, H373 OSHA HCS 2012: Muta. 2; Carc. 2; STOT RE 2 (Lungs)	NDA
Quartz	CAS:14808-60-7 EC Number:238-878-4	0.1% TO 1%	NDA	EU DSD/DPD: Self Classified: Xn R65 Carc. Cat. 1 T R45 EU CLP: Self Classified: Carc. 1A, H350i; STOT RE 1, H372 OSHA HCS 2012: Carc. 1A; STOT RE 1 (Lungs, Inhl)	NDA

Section 4 - First Aid Measures

4.1 Description of first aid measures

- Inhalation**
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Give artificial respiration if victim is not breathing. Get medical attention if symptoms occur.
- Skin**
- IF ON SKIN: Wash with plenty of soap and water. Remove contaminated clothing and shoes. If skin irritation occurs: Get medical advice/attention.
- Eye**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Flush eyes with water for at least 15 minutes while holding eyelids open. If eye irritation persists: Get medical advice/attention.
- Ingestion**
- Get medical attention immediately. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

- Suitable Extinguishing Media**
- Carbon dioxide, water, water fog, dry chemical, chemical foam.

- Unsuitable Extinguishing Media**
- No data available

5.2 Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- Product is not considered flammable or combustible.

- Hazardous Combustion Products**
- Carbon, hydrogen, oxygen, and carbon monoxide.

5.3 Advice for firefighters

- Keep containers cool with water spray to prevent container rupture due to steam buildup; floor will become slippery if material is released. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Do not walk through spilled material. Use appropriate Personal Protective Equipment (PPE) Avoid breathing mist, vapours, spray.
- Emergency Procedures**
- Stop leak if you can do it without risk. Keep unauthorized personnel away.

6.2 Environmental precautions

- Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Contain and/or absorb spill with inert material (e.g. sand, vermiculite).

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Wear appropriate personal protective equipment, avoid direct contact. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Keep container tightly closed. Store in a cool, dry, well-ventilated place. Protect from extreme temperatures.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Australia	Belgium	Canada Alberta	Canada British Columbia
Quartz (14808-60-7)	TWAs	0.025 mg/m ³ TWA (respirable fraction)	0.1 mg/m ³ TWA (respirable dust)	0.1 mg/m ³ TWA (alveolar dust)	0.025 mg/m ³ TWA (respirable particulate)	0.025 mg/m ³ TWA (respirable)
Titanium dioxide (13463-67-7)	TWAs	10 mg/m ³ TWA	10 mg/m ³ TWA (containing no asbestos and <1% crystalline silica, inhalable dust)	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA (total dust); 3 mg/m ³ TWA (respirable fraction)
Limestone (1317-65-3)	TWAs	Not established	Not established	10 mg/m ³ TWA	10 mg/m ³ TWA	10 mg/m ³ TWA (total dust); 3 mg/m ³ TWA (respirable fraction)
	STELs	Not established	Not established	Not established	Not established	20 mg/m ³ STEL
Exposure Limits/Guidelines (Con't.)						
	Result	Canada Manitoba	Canada New Brunswick	Canada Northwest Territories	Canada Nova Scotia	Canada Nunavut
Quartz (14808-60-7)	TWAs	0.025 mg/m ³ TWA (respirable fraction)	0.1 mg/m ³ TWA (respirable fraction)	0.1 mg/m ³ TWA (respirable mass); 0.3 mg/m ³ TWA (total mass)	0.025 mg/m ³ TWA (respirable fraction)	0.1 mg/m ³ TWA (respirable mass); 0.3 mg/m ³ TWA (total mass)
Titanium dioxide (13463-67-7)	TWAs	10 mg/m ³ TWA	10 mg/m ³ TWA	5 mg/m ³ TWA (respirable mass); 10 mg/m ³ TWA (total mass)	10 mg/m ³ TWA	5 mg/m ³ TWA (respirable mass); 10 mg/m ³ TWA (total mass)

Limestone (1317-65-3)	TWAs	Not established	10 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica)	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)	Not established	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Exposure Limits/Guidelines (Con't.)						
	Result	Canada Ontario	Canada Quebec	Canada Saskatchewan	Canada Yukon	China
Quartz (14808-60-7)	STELs	Not established	Not established	Not established	Not established	2 mg/m3 STEL (10%- 50% free SiO ₂ , total dust); 1.4 mg/m3 STEL (50%-80% free SiO ₂ , total dust); 1 mg/m3 STEL (containing >80% free SiO ₂ , total dust); 1.4 mg/m3 STEL (10%-50% free SiO ₂ , respirable dust); 0.6 mg/m3 STEL (50%- 80% free SiO ₂ , respirable dust); 0.4 mg/m3 STEL (containing >80% free SiO ₂ , respirable dust)
	TWAs	0.10 mg/m3 TWA (designated substances regulation, respirable, listed under Silica, crystalline)	0.1 mg/m3 TWAEV (respirable dust)	0.05 mg/m3 TWA (respirable fraction, listed under Silica - crystalline)	300 particle/mL TWA (listed under Silica)	0.7 mg/m3 TWA (containing 50-80% free SiO ₂ , total dust); 0.3 mg/m3 TWA (containing 50-80% free SiO ₂ , respirable dust); 1 mg/m3 TWA (containing 10-50% free SiO ₂ , total dust); 0.7 mg/m3 TWA (containing 10-50% free SiO ₂ , respirable dust); 0.5 mg/m3 TWA (containing >80% free SiO ₂ , total dust); 0.2 mg/m3 TWA (containing >80% free SiO ₂ , respirable dust)
Titanium dioxide (13463-67-7)	STELs	Not established	Not established	Not established	20 mg/m3 STEL (as Ti)	16 mg/m3 STEL (total dust)
	TWAs	10 mg/m3 TWA	10 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, total dust)	10 mg/m3 TWA	30 mppcf TWA (as Ti); 10 mg/m3 TWA (as Ti)	8 mg/m3 TWA (total dust)
Limestone	STELs	Not established	Not established	Not established	20 mg/m3 STEL	16 mg/m3 STEL (total dust); 8 mg/m3 STEL (respirable dust)
			10 mg/m3 TWAEV			

(1317-65-3)	TWAs	Not established	(Limestone, containing no Asbestos and <1% Crystalline silica, total dust)	10 mg/m3 TWA	30 mppcf TWA; 10 mg/m3 TWA	8 mg/m3 TWA (total dust); 4 mg/m3 TWA (respirable dust)
Exposure Limits/Guidelines (Con't.)						
	Result	Denmark		NIOSH		OSHA
Quartz (14808-60-7)	TWAs	0.3 mg/m3 TWA (total); 0.1 mg/m3 TWA (respirable)		0.05 mg/m3 TWA (respirable dust)		Not established
Titanium dioxide (13463-67-7)	TWAs	6 mg/m3 TWA (as Ti)		Not established		15 mg/m3 TWA (total dust)
Limestone (1317-65-3)	TWAs	Not established		10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)		15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

Exposure Control Notations

Germany DFG

- Quartz (14808-60-7): **Carcinogens:** (Category 1 (causes cancer in man, alveola fraction))
- Titanium dioxide (13463-67-7): **Carcinogens:** (Category 3A (could be carcinogenic for man, inhalable fraction with the exception of ultra small particles))

8.2 Exposure controls

Engineering Measures/Controls

- This material is designed to be used outdoors, in roofing applications. Good general ventilation 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.

Personal Protective Equipment

Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear chemical splash safety goggles.

Skin/Body

- Wear appropriate chemical resistant gloves.

Environmental Exposure Controls

- In case of spills, keep product clear of sewers, waterways or land areas. Dispose of waste product in accordance with national and local laws and regulations.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Off-white, creamy liquid with a paint-like odor.
Color	Off-white	Odor	Paint-like
Odor Threshold	Data lacking		
General Properties			
Boiling Point	212 °F(100 °C)	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	9 to 10
Specific Gravity/Relative Density	= 1.32 Water=1	Bulk Density	Data lacking

Water Solubility	Dispersible	Solvent Solubility	Data lacking
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	> 1 Air=1
Evaporation Rate	Data lacking	Volatiles (Vol.)	47.2 %
Flammability			
Flash Point	> 212 °F(> 100 °C)	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Not relevant.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- High temperatures.

10.5 Incompatible materials

- Strong oxidizing agents and acids.

10.6 Hazardous decomposition products

- Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons and smoke may be produced.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Limestone (25% TO 35%)	1317- 65-3	Multi-dose Toxicity: Inhalation-Rat TClO • 84 mg/m ³ 4 Hour(s) 40 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Fibrosis (interstitial); Liver:Other changes; Kidney, Ureter, and Bladder:Other changes;</i> Inhalation-Rat TClO • 250 mg/m ³ 2 Hour(s) 24 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis)</i>
Quartz (0.1% TO 1%)	14808- 60-7	Acute Toxicity: Inhalation-Human TClO • 16 mppcf 8 Hour(s) 17.9 Year(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis); Lungs, Thorax, or Respiration:Cough; Lungs, Thorax, or Respiration:Dyspnea;</i> Inhalation-Rat TClO • 200 mg/kg; <i>Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis); Lungs, Thorax, or Respiration:Other changes; Nutritional and Gross Metabolic:Changes in Chemistry or Temperature:Fe;</i> Multi-dose Toxicity: Inhalation-Hamster TClO • 3 mg/m ³ 6 Hour(s) 78 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Fibrosis (interstitial); Lungs, Thorax, or Respiration:Changes in lung weight;</i> Inhalation-Rat TClO • 6.2 mg/m ³ 6 Hour(s) 6 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Other changes; Blood:Changes in spleen; Immunological Including Allergic:Increase in cellular immune response;</i> Inhalation-Rat TClO • 80 mg/m ³ 26 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis); Blood:Changes in spleen;</i>

		<p><i>Immunological Including Allergic:</i>Decrease in cellular immune response; Mutagen: Micronucleus test • Unreported Route-Hamster • Lung (Somatic cell) • 160 µg/cm³; DNA damage • Unreported Route-Human • Other Cell Type • 120 mg/L 24 Hour(s); Micronucleus test • Unreported Route-Human • Lung (Somatic cell) • 40 µg/cm³; Tumorigen / Carcinogen: Inhalation-Rat TCl₀ • 50 mg/m³ 6 Hour(s) 71 Week(s)-Intermittent; <i>Tumorigenic:</i>Carcinogenic by RTECS criteria; Liver:Tumors</p>
Titanium dioxide (5% TO 10%)	13463-67-7	<p>Irritation: Skin-Human • 300 µg 3 Day(s)-Intermittent • Mild irritation; Multi-dose Toxicity: Inhalation-Rat TCl₀ • 250 mg/m³ 6 Hour(s) 4 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:</i>Chronic pulmonary edema; Lungs, Thorax, or Respiration:Other changes; Inhalation-Rat TCl₀ • 10 mg/m³ 6 Hour(s) 13 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:</i>Fibrosis (interstitial); Lungs, Thorax, or Respiration:Other changes; Biochemical:Metabolism (intermediary):Effect on inflammation or mediation of inflammation; Mutagen: Micronucleus test • Ingestion/Oral-Mouse • 280 mg/kg 7 Day(s)-Intermittent; DNA damage • Ingestion/Oral-Mouse • 280 mg/kg 7 Day(s)-Intermittent; Cytogenetic analysis • Ingestion/Oral-Mouse • 280 mg/kg 7 Day(s)-Intermittent; Tumorigen / Carcinogen: Inhalation-Rat • 10 mg/m³ 18 Hour(s) 2 Year(s)-Intermittent; <i>Tumorigenic:</i>Carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration:Tumors; Inhalation-Rat TCl₀ • 250 mg/m³ 6 Hour(s) 2 Year(s)-Intermittent; <i>Tumorigenic:</i>Carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration:Tumors</p>

GHS Properties	Classification
Acute toxicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Skin corrosion/Irritation	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Serious eye damage/Irritation	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Skin sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Respiratory sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Aspiration Hazard	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Carcinogenicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Germ Cell Mutagenicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Toxicity for Reproduction	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
STOT-SE	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
STOT-RE	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking

Potential Health Effects

Inhalation

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available

Skin

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • Prolonged or repeated skin contact may cause irritation.

Eye

- Acute (Immediate)** • May cause minor eye irritation (burning, tearing, redness or swelling).
- Chronic (Delayed)** • No data available

Ingestion

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available

Carcinogenic Effects

- Although this material contains titanium dioxide and quartz, which may be carcinogens, these ingredients are encapsulated therefore it is unlikely that exposure to these ingredients will occur while under normal conditions of use.

Carcinogenic Effects			
	CAS	IARC	NTP
Quartz	14808-60-7	Group 1-Carcinogenic	Known Human Carcinogen
Titanium dioxide	13463-67-7	Group 2B-Possible Carcinogen	Evidence of Carcinogenicity

Key to abbreviations

TC = Toxic Concentration

Section 12 - Ecological Information**12.1 Toxicity**

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations**13.1 Waste treatment methods****Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards

DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
ADN	NDA	Not Regulated	NDA	NDA	NDA
ADR/RID	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user • None specified.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code • Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • None

State Right To Know				
Component	CAS	MA	NJ	PA
Limestone	1317-65-3	Yes	Yes	Yes
Quartz	14808-60-7	Yes	Yes	Yes
Titanium dioxide	13463-67-7	Yes	Yes	Yes
Water	7732-18-5	No	No	No

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
Limestone	1317-65-3	No	Yes	Yes	Yes	No
Quartz	14808-60-7	Yes	No	Yes	Yes	No
Titanium dioxide	13463-67-7	Yes	No	Yes	Yes	No
Water	7732-18-5	Yes	No	Yes	Yes	No

Inventory (Con't.)				
Component	CAS	Japan ENCS	Korea KECL	TSCA
Limestone	1317-65-3	Yes	Yes	Yes
Quartz	14808-60-7	Yes	Yes	Yes
Titanium dioxide	13463-67-7	Yes	Yes	Yes
Water	7732-18-5	No	Yes	Yes

Australia

Labor

Australia - Work Health and Safety Regulations - Hazardous Substances Requiring Health Monitoring

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Demographic, medical and occupational history; Records of personal exposure; Standardised respiratory questionnaire to be completed;

		Standardised respiratory function test, for example, FEV1, FVC and FEV1/FVC; Chest X-ray full size PA view
• Water	7732-18-5	Not Listed
Australia - High Volume Industrial Chemicals List		
• Titanium dioxide	13463-67-7	
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	
• Water	7732-18-5	
Australia - List of Designated Hazardous Substances - Classification		
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Self classification required
• Water	7732-18-5	Not Listed

Environment**Australia - National Pollutant Inventory (NPI) Substance List**

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Australia - Ozone Protection Act - Scheduled Substances

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Australia - Priority Existing Chemical Program

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Belgium**Labor****Belgium - Substances and Preparations - Carcinogens and Mutagens**

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Bulgaria**Environment****Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 24 Hour**

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 30 Minute

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed
Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - Annual		
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Canada

Labor		
Canada - WHMIS - Classifications of Substances		
• Titanium dioxide	13463-67-7	D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Titanium dioxide, mixture containing on Health Canada's WHMIS Division website.)
• Limestone	1317-65-3	D2A D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Silica, crystalline, encapsulated on Health Canada's WHMIS Division website.)
• Quartz	14808-60-7	Uncontrolled product according to WHMIS classification criteria
• Water	7732-18-5	
Canada - WHMIS - Ingredient Disclosure List		
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	1 %
• Water	7732-18-5	Not Listed

Environment		
Canada - CEPA - Priority Substances List		
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

China

Other		
China - Annex I & II - Controlled Chemicals Lists		
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Denmark

Environment

Denmark - List of Undesirable Substances - Product Groups/Function

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Germany

Labor

Germany - Immission Control - Qualifying Quantities for Major Accident Prevention

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Germany - Immission Control - Qualifying Quantities for Safety Reporting

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Germany - TRGS 505 - Specific Lead Regulations

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Germany - TRGS 511 - Specific Ammonium Nitrate Regulations

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Environment**Germany - TA Luft - Types and Classes**

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Germany - TA Luft - Emission Limits for Carcinogenic Substances

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Germany - TA Luft - Emission Limits for Fibers

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Germany - TA Luft - Emission Limits for Inorganic Dusts

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Germany - TA Luft - Emission Limits for Inorganic Gases

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Germany - TA Luft - Emission Limits for Organic Substances

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Germany - Water Classification (VwVwS) - Annex 1

• Titanium dioxide	13463-67-7	ID Number 1345, not considered hazardous to water
• Limestone	1317-65-3	ID Number 317, not considered hazardous to water

• Quartz	14808-60-7	ID Number 849, not considered hazardous to water
• Water	7732-18-5	Not Listed
Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes		
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed
Germany - Water Classification (VwVwS) - Annex 3		
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	ID Number 849, not considered hazardous to water
• Water	7732-18-5	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

United States - California**Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Titanium dioxide	13463-67-7	carcinogen, initial date 9/2/11 (airborne, unbound particles of respirable size)
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	carcinogen, initial date 10/1/88 (airborne particles of respirable size)
• Water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• Quartz	14808-60-7	Not Listed
• Water	7732-18-5	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H341 - Suspected of causing genetic defects.
- H350i - May cause cancer by inhalation.
- H351 - Suspected of causing cancer.
- H372 - Causes damage to organs through prolonged or repeated exposure.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- R40 - Limited evidence of a carcinogenic effect.
- R45 - May cause cancer.
- R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R65 - Harmful: may cause lung damage if swallowed.
- R68 - Possible risk of irreversible effects.

Revision Date

- 16/January/2018

Preparation Date

- 04/January/2012

Other Information

- Changes to this revision: Updated mailing address.

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Key to abbreviations

NDA = No Data Available