SAFETY DATA SHEET

1. Identification

Material Name:		**Sewer Shield® 100 Trowel** Part A 1 GL Can	
Material:		ECA4379201421	
Recommended Use and Restriction on Use			
	Recommended Use:	Sealant	
	Restrictions on Use:	Not Known	
Manufacturer/Importer/Supplier/Distributor Information		Environmental Coatings LLC 4702 E Virginia Street Mesa, Arizona 85215 US	
Contact Person:		Chemtrec	
Telephone:		480-984-7608	
Emergency Telephone Number:		1-800-424-9300	

2. Hazard Identification

Hazard Classification			
	Health Hazards		
	Skin Sensitizer	Category 1	
	Germ Cell Mutagenicity	Category 2	
	Carcinogenicity	Category 2	
	Unknown Toxicity – Health		
		Acute Toxicity, Oral	88.61%
		Acute Toxicity, Dermal	89.86%
		Acute Toxicity, Inhalation, Vapor	100%
		Acute Toxicity, Inhalation, Dust, or Mist	89.76%
	Unknown Toxicity – Environment		
		Acute Hazards to the Aquatic Environment	98.97%
		Chronic Hazards to the Aquatic Environment	100%
Label Elements			
	Hazard Symbol:		
			
	Signal Word:	Warning	
	Hazard Statement:	May Cause an Allergic Skin Reaction. Suspected of Causing Genetic Defects. Suspected of Causing Cancer.	
	Precautionary Statement:		
	Prevention:	Avoid breathing dust/fume/gas/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face	

		protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.
	Response:	IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see this label). Wash contaminated clothing before reuse.
	Storage:	Store locked up.
	Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification:		None.

3. Composition/Information on Ingredients

Mixtures			
	Chemical Identity	**CAS number**	**Content in percent {%}***
	o-Cresyl Glycidyl Ether	2210-79-9	10 – 30%
	Titanium Dioxide	13463-67-7	1 – 5%

*All Concentrations are percent by Weight unless ingredient is a gas. Gas concentrations are in percent by volume

4. First-aid Measures

Ingestion:	Call a POISON CENTER or doctor; If you feel unwell. Rinse Mouth.
Inhalation:	Move to fresh air.
Skin Contact:	Get medical attention if symptoms occur. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
Eye Contact:	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.
Most Important Symptoms/Effects, Acute and Delayed	
Symptoms:	May cause skin and eye irritation.
Indication of Immediate Medical Attention and Special Treatment Needed	
Treatment:	Symptoms may be delayed.

5. Fire-Fighting Measures

General Fire Hazards:	No unusual fire or explosion hazards noted.	
Suitable (and unsuitable) Extinguishing Media		
	Suitable Extinguishing Media:	Use fire-extinguishing media appropriate for surrounding materials.
	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		
	Special Fire Fighting	No data available.

	Procedures:	
	Special Protective Equipment for Fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire

6. Accidental Release Measures

Personal Precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth, or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Notification procedures	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Environmental precautions	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Precautions for Safe Handling	Do not handle until all safety precautions have been read and understood. Obtain Special instructions before use. Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including and incompatibilities:	Store locked up.

8. Exposure Controls/Personal Protection

Control Parameters				
	Occupational Exposure Limits			
	Chemical Identity	**Type**	**Exposure Limit Values**	**Source**
	Titanium Dioxide	TWA	10 mg/m^3	US. ACGIH Threshold Limit Values (2011)
	Titanium Dioxide – Total Dust.	PEL	15 mg/m^3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	Chemical Name	**Type**	**Exposure Limit Values**	**Source**
	Titanium Dioxide – Total Dust.	TWA	10 mg/m^3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	Titanium Dioxide –	TWA	3 mg/m^3	Canada. British Columbia

	Respirable Fraction.			OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	Titanium Dioxide	TWAEV	10 mg/m^3	Canada. Ontario OELs.(Control of Exposure to Biological or Chemical Agents) (11 2010)
	Titanium Dioxide – Total Dust.	TWA	10 mg/m^3	Canada. Quebec OELs. (Ministry of Labor – Regulation Respecting the Quality of the Work Environment) (12 2008)
Appropriate Engineering Controls		Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.		
Individual Protection Measures, Such as Personal Protective Equipment				
General Information:		Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory and eye protection may be needed in special circumstances, such as poorly ventilated spaces, heating, evaporation of liquids from large surfaces, spraying of mists, mechanical generation of dusts, drying of solids, etc.		
Eye/Face Protection:		Wear safety glasses with side shields (or goggles).		
Skin Protection				
	Hand Protection:	Use suitable protective gloves if risk of skin contact.		
	Other:	Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.		
Respiratory Protection:		In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.		
Hygiene Measures:		Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.		

9. Physical and Chemical Properties

Appearance		
	Physical State:	Liquid
	Form:	Liquid
	Color:	Tan
Odor:		Mild
Odor Threshold:		No data available.
pH:		No data available.
Melting Point/Freezing Point:		No data available.

Initial Boiling Point and Boiling Range:		No data Available.
Flash Point:		> 93 C > 200 F (Setaflash Closed Cup)
Evaporation Rate:		Slower than Ether
Flammability (Solid, Gas):		No
Upper/Lower Limit on Flammability or Explosive Limits		
	Flammability Limit – Upper (%):	No data available.
	Flammability Limit – Lower (%):	No data available.
	Explosive Limit – Upper (%)	No data available.
	Explosive Limit – Lower (%)	No data available.
Vapor Pressure:		No data available.
Vapor Density:		Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative Density:		1.05
Solubility(ies)		
	Solubility in Water:	Insoluble in water.
	Solubility (other):	No data available.
Partition Coefficient (n-Octanol/Water):		No data available.
Auto-Ignition Temperature:		No data available.
Decomposition Temperature:		No data available.
Viscosity:		No data available.

10. Stability and Reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal Decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological Information

Information on Likely routes of Exposure			
	Ingestion:		May be ingested by accident. Ingestion may cause irritation and malaise.
	Inhalation:		In high concentrations, vapor, fumes or mists may irritate nose, throat and mucus membranes.
	Skin Contact:		May be harmful in contact with skin. May cause an allergic skin reaction.
	Eye Contact:		Eye contact is possible and should be avoided.
Information on Toxicological Effects			
Acute Toxicity (List all Possible Routes of Exposure)			
	Oral Product:		No data available.
	Dermal Product:		ATEmix: 2,210.6 mg/kg
	Inhalation Product:		No data available.
	Repeated Dose Toxicity Product:		No data available.
	Skin Corrosion/Irritation Product:		No data available.
	Serious Eye Damage/Eye Irritation		No data available.
	Specified Substance(s):		

	Titanium Dioxide	In vivo (Rabbit, 24 – 72 hrs): Not irritating
	Respiratory or Skin Sensitization Product:	No data available.
	Carcinogenicity Product:	Suspected of causing cancer.
	IARC Monographs on the evaluation of Carcinogenic Risks to Humans:	
	Titanium Dioxide	Overall evaluation: Possibly carcinogenic to humans.
	US national Toxicology Program (NTP) Report on Carcinogens:	
	No carcinogenic components identified	
	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):	
	No carcinogenic components identified	
	Germ Cell Mutagenicity	
	In Vitro Product:	No data available.
	In Vivo Product:	No data available.
	Reproductive Toxicity Product:	No data available.
	Reproductive Toxicity Product:	No data available.
	Specific Target Organ Toxicity – Single Exposure Product:	No data available.
	Specific Target Organ Toxicity – Repeated Exposure Product:	No data available.
	Aspiration Hazard Product:	No data available.
	Other Effects:	No data available.

12. Ecological Information

Eco-Toxicity:			
	Acute Hazards to the Aquatic Environment:		
	Fish Product:	No data available.	
	Specified Substances(s):		
	Titanium Dioxide	LC_{-50} (Mummichog (Fundulus Heteroclitus), 96 h): > 1,000 mg/l Mortality	
	Aquatic Invertebrates Product:	No data available.	
	Specified Substance(s):		
	Titanium Dioxide	EC_{-50} (Water flea (Daphnia Magna), 48 h): > 1,000 mg/l Intoxication	
Chronic Hazards to the Aquatic Environment:			
	Fish Product:	No data available.	
	Specified Substance(s):		
	Titanium Dioxide	LC_{-0} (Coregonus autumnalis migratorius G., 30 d): 3 mg/l experimental result	
	Aquatic Invertebrates Product:	No data available.	
	Toxicity to Aquatic Plants Product:	No data available.	
Persistence and Degradability			
	Biodegradation Product:	No data available.	
	BOD/COD Ratio Product:	No data available.	
Bioaccumulative Potential Bioconcentration Factor (BCF) Product:		No data available.	

	Partition Coefficient n-octanol / Water (Log Kow) Product:	No data available.	
Mobility in Soil:		No data available.	
Other Adverse Effects:		No data available.	

13. Disposal Considerations

Disposal Instructions:	Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Contaminated Packaging:	No data available.

14. Transport Information

TDG:	
	Not Regulated
CFR/DOT:	
	Not Regulated
IMDG:	
	Not Regulated

15. Regulatory Information

US Federal Regulations			
	TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		
	None present or none present in regulated quantities.		
	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
	None present or none present in regulated quantities.		
	CERCLA Hazardous Substance List (40 CFR 302.4):		
	Chemical Identity	**Reportable Quantity**	
	Methanol	5000 LBS	
	Superfund Amendments and Reauthorization Act of 1986 (SARA)		
	Hazard Categories		
	Immediate (Acute) Health Hazards		
	Delayed (Chronic) Health Hazards		
	SARA 302 Extremely Hazardous Substance		
	None present or none present in regulated quantities.		
	SARA 304 Emergency Release Notification		
	Chemical Identity	**Reportable Quantity**	
	Methanol	5000 LBS	
	SARA 311/312 Hazardous Chemical		
	Chemical Identity	**Threshold Planning Quantity**	
	o-Cresyl Glycidyl Ether	500 LBS	
	Titanium Dioxide	500 LBS	
	SARA 313 (TRI Reporting)	None present or none present in regulated quantities.	
	Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)		
	None present or none present in regulated quantities.		
	Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):		
	None present or none present in regulated quantities.		
US State Regulations			

	US. California Proposition 65		
		This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.	
	US. New Jersey Worker and Community Right-to-Know Act		
		Chemical Identity	
		Titanium Dioxide	
	US. Massachusetts RTK –Substance List		
		Chemical Identitiy	
		Titanium Dioxide	
	US. Pennsylvania RTK – Hazardous Substances		
		Chemical Identity	
		Titanium Dioxide	
	US. Rhode Island RTK		
	No ingredient regulated by RI Right-to-Know Law present.		
Other Regulations:			
	Regulatory VOC (Less Water and Exempt Solvent):		0 g/l
	VOC Method 310:		0.01 %
Inventory Status:			
Australia AICS:			One or more components in this product are not listed on or exempt from inventory.
Canada DSL Inventory List:			All components in this product are listed on or exempt from the inventory.
EINECS, ELINCS or NLP:			One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:			One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:			One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):			One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:			One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:			One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:			All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:			One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:			One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:			One or more components in this product are not listed on or exempt from the Inventory.

16. Other Information, Including Date of Preparation or Last Revision

Revision Date:	December 4, 2017
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Material Name:		**Sewer Shield® 100 Trowel** Part B 1/2 GL Can	
Material:		ECB437920 5	
Recommended Use and Restriction on Use			
	Recommended Use:	Curative	
	Restrictions on Use:	Not Known	
Manufacturer/Importer/Supplier/Distributor Information		Environmental Coatings LLC 4702 E Virginia Street Mesa, Arizona 85215 US	
Contact Person:		Chemtrec	
Telephone:		480-984-7608	
Emergency Telephone Number:		1-800-424-9300	

2. Hazard Identification

Hazard Classification			
	Health Hazards		
		Acute Toxicity (Inhalation – vapor)	Category 4
		Serious Eye Damage/Eye Irritation	Category 2A
		Skin Sensitizer	Category 1
		Toxic to Reproduction	Category 2
	Unknown Toxicity – Health		
		Acute Toxicity, Oral	0%
		Acute Toxicity, Dermal	0.025%
		Acute Toxicity, Inhalation, Vapor	52.73%
		Acute Toxicity, Inhalation, Dust, or Mist	52.73%
Label Elements			
	Hazard Symbol:		
			
	Signal Word:	Warning	
	Hazard Statement:	May cause an allergic skin reaction.	
		Causes serious eye irritation.	
		Harmful if inhaled.	
		Suspected of damaging fertility or the unborn child.	
	Precautionary Statement:		
	Prevention:	Avoid breathing dust/fume/gas/vapors/spray. Use only outdoors	

		or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.
	Response:	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
		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.
		IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.
		Call a POISON CENTRE/doctor/ if you feel unwell. Specific treatment (see this label). Wash contaminated clothing before reuse.
	Storage:	Store locked up.
	Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification:		None.

3. Composition/Information on Ingredients

Mixtures			
	Chemical Identity	**CAS number**	**Content in percent {%}***
	Benzyl	100-51-6	25 - <50%
	1,2-Cyclohexanediamine	694-83-7	10 - <25%
	Bisphenol A	80-05-7	1 - <3%

*All Concentrations are percent by Weight unless ingredient is a gas. Gas concentrations are in percent by volume

4. First-aid Measures

Ingestion:	Call a POISON CENTER/doctor/…/if you feel unwell. Rinse mouth.
Inhalation:	Move to fresh air.
Skin Contact:	If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
Eye Contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Most important symptoms/effects, acute and delayed	
Symptoms:	May cause skin and eye irritation.
Indication of immediate medical attention and special treatment needed	
Treatment:	Symptoms may be delayed.

5. Fire-Fighting Measures

General Fire Hazards:		No unusual fire or explosion hazards noted.
Suitable (and unsuitable) Extinguishing Media		
	Suitable Extinguishing Media:	Use fire-extinguishing media appropriate for surrounding materials.
	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		
	Special Fire Fighting Procedures:	No data available.
	Special Protective Equipment for Fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental Release Measures

Personal Precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth, or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Notification procedures	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Environmental precautions	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Precautions for Safe Handling	Wash hands thoroughly after handling. Avoid contact with eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including and incompatibilities:	Store locked up.

8. Exposure Controls/Personal Protection

Control Parameters					
	Occupational Exposure Limits				
		None of the components have assigned exposure limits.			
	Appropriate Engineering Controls	Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.			
Appropriate Engineering Controls	Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.				
Individual Protection Measures, Such as Personal Protective Equipment					
General Information:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory and eye protection may be needed in special circumstances, such				

	as poorly ventilated spaces, heating, evaporation of liquids from large surfaces, spraying of mists, mechanical generation of dusts, drying of solids, etc.	
Eye/Face Protection:	Wear safety glasses with side shields (or goggles).	
Skin Protection		
	Hand Protection:	Use suitable protective gloves if risk of skin contact.
	Other:	Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
	Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
	Hygiene Measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and Chemical Properties

Appearance		
	Physical State:	Liquid
	Form:	Liquid
	Color:	Amber
Odor:		Mild pungent
Odor Threshold:		No data available.
pH:		No data available.
Melting Point/Freezing Point:		No data available.
Initial Boiling Point and Boiling Range:		No data Available.
Flash Point:		> 93 C > 200 F (Setaflash Closed Cup)
Evaporation Rate:		Slower than Ether
Flammability (Solid, Gas):		No
Upper/Lower Limit on Flammability or Explosive Limits		
	Flammability Limit – Upper (%):	No data available.
	Flammability Limit – Lower (%):	No data available.
	Explosive Limit – Upper (%)	No data available.
	Explosive Limit – Lower (%)	No data available.
Vapor Pressure:		No data available.
Vapor Density:		Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative Density:		1.06
Solubility(ies)		
	Solubility in Water:	Practically Insoluble
	Solubility (other):	No data available.
Partition Coefficient (n-Octanol/Water):		No data available.
Auto-Ignition Temperature:		No data available.
Decomposition Temperature:		No data available.
Viscosity:		No data available.

10. Stability and Reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	Avoid contact with acids
Hazardous Decomposition Products:	Thermal Decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological Information

Information on Likely routes of Exposure			
	Ingestion:		May be harmful if swallowed.
	Inhalation:		In high concentrations, vapor, fumes or mists may irritate nose, throat and mucus membranes.
	Skin Contact:		May be harmful in contact with skin. Causes mild skin irritation. May cause an allergic skin reaction.
	Eye Contact:		Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics			
	Ingestion:		No data available.
	Inhalation:		No data available.
	Skin Contact:		No data available.
	Eye Contact:		No data available.
Information on Toxicological Effects			
Acute Toxicity (List all Possible Routes of Exposure)			
	Oral Product:		ATEmix: 2,194.95 mg/kg
	Dermal Product:		ATEmix: 2,947.77 mg/kg
	Inhalation Product:		ATEmix: 11 mg/l
	Repeated Dose Toxicity Product:		No data available.
	Skin Corrosion/Irritation Product:		No data available.
	Serious Eye Damage/Eye Irritation Product:		No data available.
	Specified Substance(s):		
	Benzyl Alcohol		In vivo (Rabbit): Not irritant Experimental result, Key study
	1,2-Cyclohexanediamine		In vivo (Rabbit): Category 1A Experimental result, Key study
	Serious Eye Damage/Eye Irritation		No data available.
	Respiratory or Skin Sensitization Product:		No data available.
	Carcinogenicity Product:		Suspected of causing cancer.
	IARC Monographs on the evaluation of Carcinogenic Risks to Humans:		
	No carcinogenic components identified		
	US national Toxicology Program (NTP) Report on Carcinogens:		
	No carcinogenic components identified		
	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):		
	No carcinogenic components identified		
	Germ Cell Mutagenicity		
		In Vitro Product:	No data available.
		In Vivo Product:	No data available.
	Reproductive Toxicity Product:		Suspected of damaging fertility or the unborn child.
	Specific Target Organ Toxicity –		No data available.

	Single Exposure Product:	
	Specific Target Organ Toxicity – Repeated Exposure Product:	No data available.
	Aspiration Hazard Product:	No data available.
	Other Effects:	No data available.

12. Ecological Information

Eco-Toxicity:				
		Acute Hazards to the Aquatic Environment:		
	Fish Product:		No data available.	
		Specified Substances(s):		
		Benzyl Alcohol	LC 50 (Pimephales promelas), 96h): 460 mg/l Mortality	
		Bisphenol A	LC 50 (Pimephales promelas), 96h): 3.6 – 5.4 mg/l Mortality	
	Aquatic Invertebrates Product:			
		Specified Substance(s):		
		Benzyl Alcohol	EC 50 (Water flea (Daphnia Magna), 48 h): 230 mg/l Experimental Result, Key study	
		Bisphenol A	EC 50 (Water flea (Daphnia Magna), 48 h): 9.2 – 11.4 mg/l Intoxication	
Chronic Hazards to the Aquatic Environment:				
		Fish Product:	No data available.	
		Aquatic Invertebrates Product:	No data available.	
		Toxicity to Aquatic Plants Product:	No data available.	
Persistence and Degradability				
		Biodegradation Product:	No data available.	
		BOD/COD Ratio Product:	No data available.	
Bioaccumulative Potential Bioconcentration Factor (BCF) Product:			No data available.	
	Partition Coefficient n-octanol / Water (Log Kow) Product:		No data available.	
		Specified Substance(s):		
			Benzyl Alcohol	Log Kow: 1.10
			Bisphenol A	Log Kow: 3.32
Mobility in Soil:			No data available.	
Other Adverse Effects:			No data available.	

13. Disposal Considerations

Disposal Instructions:	Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Contaminated Packaging:	No data available.

14. Transport Information

TDG:	
	UN1760, CORROSIVE LIQUID, N.O.S. (Alkaline Amine), 8, PG III
CFR/DOT:	
	UN1760, CORROSIVE LIQUID, N.O.S. (Alkaline Amine), 8, PG III
IMDG:	
	UN1760, CORROSIVE LIQUID, N.O.S. (Alkaline Amine), 8, PG III
Further Information:	
	The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory Information

US Federal Regulations			
	TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		
		None present or none present in regulated quantities.	
	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
		None present or none present in regulated quantities.	
	CERCLA Hazardous Substance List (40 CFR 302.4):		
		Chemical Identity	Reportable Quantity
	Superfund Amendments and Reauthorization Act of 1986 (SARA)		
	Hazard Categories		
		Immediate (Acute) Health Hazards	
		Delayed (Chronic) Health Hazards	
	SARA 302 Extremely Hazardous Substance		
		None present or none present in regulated quantities.	
	SARA 304 Emergency Release Notification		
		Chemical Identity	**Reportable Quantity**
		Bisphenol A	
	SARA 311/312 Hazardous Chemical		
		Chemical Identity	**Threshold Planning Quantity**
		Benzyl Alcohol	10000 LBS
		1,2-Cyclohexanediamine	10000 LBS
		Bisphenol A	10000 LBS
	SARA 313 (TRI Reporting)		
		Chemical Identity	
		Bisphenol A	
	Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)		
		None present or none present in regulated quantities.	
	Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):		
		None present or none present in regulated quantities.	
US State Regulations			
	US. California Proposition 65		
		This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.	
		Bisphenol A	Female reproductive toxin. 06 2015
	US. New Jersey Worker and Community		

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	Right-to-Know Act		
		Chemical Identity	
		Bisphenol A	
	US. Massachusetts RTK –Substance List		
		Chemical Identitiy	
		Benzyl Alcohol	
		Bisphenol A	
	US. Pennsylvania RTK – Hazardous Substances		
		Chemical Identity	
		Benzyl Alcohol	
		Bisphenol A	
	US. Rhode Island RTK		
	No ingredient regulated by RI Right-to-Know Law present.		
International Regulations:			
	Montreal Protocol		Not Applicable
	Stockholm Convention		Not Applicable
	Rotterdam Convention		Not Applicable
	Kyoto Protocol		Not Applicable
	VOC: When appropriately mixed with the other part, product has a VOC less water and exempt solvent of 170 g/l		
	Regulatory VOC (Less water and exempt solvent)		**501 g/l**
	VOC Method 310		47.29%
Inventory Status:			
Australia AICS:			One or more components in this product are not listed on or exempt from inventory.
Canada DSL Inventory List:			All components in this product are listed on or exempt from the inventory.
EINECS, ELINCS or NLP:			One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:			One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:			One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):			One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:			One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:			One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:			All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:			One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:			One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:			One or more components in this product are not listed on or exempt from the Inventory.

16. Other Information, Including Date of Preparation or Last Revision

Revision Date:	December 4, 2017
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Product identifier:	**Sewer Shield® 100** Part C ~40LBS		
Product Name/Trade Names:			
	Sand and Ground Silica Sand		
Chemical Name or Synonym:			
	Crystalline Silica (Quartz), Sand, Silica Sand, Flint, Ground Silica, Fine Ground Silica, Silica Flour.		
Recommended use of the chemical and restrictions on use:			
	(Non-exhaustive list): brick, ceramics, foundry castings, glass, grout, hydraulic fracturing sand, frac sand, proppant, mortar, paint and coatings, silicate chemistry, silicone rubber, thermoset plastics.		
Manufacturer:	Environmental Coatings LLC 4702 E Virginia Street Mesa, Arizona 85215 US		
	Chemtrec		
Phone:	480-984-7608		
Emergency Phone:	1-800-424-9300		

2. Hazard Identification

Classification:			
	Physical	**Health**	
	Not Hazardous	Carcinogen Category 1A Specific Target Organ Toxicity – Repeated Exposure Category 1	
			
Danger	May cause cancer by inhalation.		
	Causes damage to lungs through prolonged or repeated exposure by inhalation.		
Response	If exposed or concerned: Get medical advice.		
Disposal	Dispose of contents/containers in accordance with local regulation		
Prevention	Obtain special instructions before use.		
	Do not handle until all safety precautions have been read and understood		
	Do not breathe dust.		
	Do not eat, drink or smoke when using this product.		
	Wear protective gloves and safety glasses or goggles.		
	In case of inadequate ventilation wear respiratory protection.		

3. Composition/Information on Ingredients

Component		**CAS No.**	**Percent**
Crystalline Silica(Quartz)		14808-60-7	95-99.9

4. First-aid Measures

Inhalation	First aid is not generally required. If irritation develops from breathing dust, move the person from the overexposure and seek medical attention if needed.
Skin contact	First aid is not required.
Eye contact	Wash immediately with plenty of water. Do not rub eyes. If irritation persists, seek medical attention.
Ingestion	First aid is not required.
Most important symptoms/effects, acute and delayed	
	Particulates may cause abrasive eye injury. Inhalation of dust may cause respiratory tract irritation. Symptoms of exposure may include cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath. Prolonged inhalation of respirable crystalline silica above certain concentrations may cause lung diseases, including silicosis and lung cancer.
Indication of immediate medical attention and special treatment, if necessary	
	Immediate medical attention is not required.

5. Fire-Fighting Measures

Suitable (and unsuitable) extinguishing media	
	Use extinguishing media appropriate for surrounding fire
Specific hazards arising from the chemical	
	Product is not flammable, combustible or explosive
Special protective equipment and precautions for fire-fighters	
	None required

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures	
	Wear appropriate protective clothing and respiratory protection (see Section 8). Avoid generating airborne dust during clean-up.
Environmental precautions	
	No specific precautions. Report releases to regulatory authorities if required by local, state and federal regulations
Methods and materials for containment and cleaning up	
	Avoid dry sweeping. Do not use compressed air to clean spilled sand or ground silica. Use water spraying/flushing or ventilated or HEPA filtered vacuum cleaning system, or wet before sweeping. Dispose of in closed containers

7. Handling and Storage

Precautions for safe handling	
	Avoid generating dust. Do not breathe dust. Do not rely on your sight to determine if dust is in the air. Respirable crystalline silica dust may be in the air without a visible dust cloud. Use adequate exhaust ventilation and dust collection to reduce respirable crystalline silica dust levels to below the permissible exposure limit ("PEL"). Maintain and test ventilation and dust collection equipment. Use all available work practices to control dust exposures, such as water sprays. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Keep airborne dust concentrations below permissible exposure limits.
	Where necessary to reduce exposures below the PEL or other applicable limit (if lower than the PEL), wear a respirator approved for silica containing dust when using, handling, storing or disposing of this product or bag. See Section 8, for further information on respirators. Do not alter the respirator. Do not wear a tight-fitting respirator with facial hair such as a beard or mustache that prevents a good face to face piece seal between the respirator and face.

	Maintain, clean, and fit test respirators in accordance with applicable standards. Wash or vacuum clothing that has become dusty.
	Participate in training, exposure monitoring, and health surveillance programs to monitor any potential adverse health effects that may be caused by breathing respirable crystalline silica. The OSHA Hazard Communication Standard, 29 CFR Sections 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21, and state and local worker or community "right-to-know" laws and regulations should be strictly followed.
Conditions for safe storage, including any incompatibilities	
	Use dust collection to trap dust produced during loading and unloading. Keep containers closed and store bags to avoid accidental tearing, breaking, or bursting.

8. Exposure Controls/Personal Protection

Exposure guidelines			
Component	**OSHA PEL**	**ACGIH TLV**	**NIOSH REL**
Crystalline Silica (quartz)	10 mg/m^3 %SiO2 + 2 TWA (respirable dust) 30 mg/m^3 %SiO2 + 2 TWA (total dust)	0.025 mg/m^3 TWA (respirable dust)	0.05 mg/m^3 TWA (respirable dust)
If crystalline silica (quartz) is heated to more than 870°C, quartz can change to a form of crystalline silica known as tridymite; if crystalline silica (quartz) is heated to more than 1470°C, quartz can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as tridymite or cristobalite is one- half of the OSHA PEL for crystalline silica (quartz).			
Appropriate engineering controls			
	Use adequate general or local exhaust ventilation to maintain concentrations in the workplace below the applicable exposure limits listed above.		
Respiratory protection			
	If it is not possible to reduce airborne exposure levels to below the OSHA PEL or other applicable limit with ventilation, use the table below to assist you in selecting respirators that will reduce personal exposures to below the OSHA PEL. This table is part of the NIOSH Respirator Selection Logic, 2004, Chapter III, Table 1, “Particulate Respirators”. The full document can be found at www.cdc.gov/niosh/npptl/topics/respirators; the user of this MSDS is directed to that site for information concerning respirator selection and use. The assigned protection factor (APF) is the maximum anticipated level of protection provided by each type of respirator worn in accordance with an adequate respiratory protection program. For example, an APF of 10 means that the respirator should reduce the airborne concentration of a particulate by a factor of 10, so that if the workplace concentration of a particulate was 150 ug/m3, then a respirator with an APF of 10 should reduce the concentration of particulate to 15 ug/m3. In using chemical cartridges, consideration must be given to selection of the correct cartridge for the chemical exposure and the maximum use concentration for the cartridge. In additional a cartridge change-out schedule must be developed based on the concentrations in the workplace.		
Assigned protection factor	**Type of Respirator (Use only NIOSH-certified respirators)**		
10	Any air-purifying elastomeric half-mask respirator equipped with appropriate type of particulate filter. 2 Appropriate filtering face piece respirator. 2,3 Any air-purifying full face piece respirator equipped with appropriate type of particulate filter. 2		

	Any negative pressure (demand) supplied-air respirator equipped with a half-mask.
25	Any powered air-purifying respirator equipped with a hood or helmet and a high efficiency (HEPA) filter. Any continuous flow supplied-air respirator equipped with a hood or helmet.
50	Any air-purifying full face piece respirator equipped with N-100, R-100, or P-100 filter(s). Any powered air-purifying respirator equipped with a tight-fitting face piece (half or full face piece) and a high-efficiency filter. Any negative pressure (demand) supplied-air respirator equipped with a full face piece. Any continuous flow supplied-air respirator equipped with a tight-fitting face piece (half or full face piece). Any negative pressure (demand) self-contained respirator equipped with a full face piece.
1,000	Pressure-demand supplied-air respirator equipped with a half-mask.
1. The protection offered by a given respirator is contingent upon (1) the respirator user adhering to complete program requirements (such as the ones required by OSHA in 29CFR1910.134), (2) the use of NIOSH-certified respirators in their approved configuration, and (3) individual fit testing to rule out those respirators that cannot achieve a good fit on individual workers. 2. Appropriate means that the filter medium will provide protection against the particulate in question. 3. An APF of 10 can only be achieved if the respirator is qualitatively or quantitatively fit tested on individual workers.	
Skin protection	Maintain good industrial hygiene. Protection recommended for workers suffering from dermatitis or sensitive skin.
Eye protection	Safety glasses with side shields or goggles recommended if eye contact is anticipated.
Other	None known.

9. Physical and Chemical Properties

Appearance (physical state, color, etc.)			
	White or tan sand: granular, crushed or ground to a powder.		
Odor			
	None		
Odor threshold: Not determined		pH: 6-8	
Melting point/freezing point: 3110°F/1710°C		Boiling point/range: 4046°F/2230°C	
Flash point: Not applicable		Evaporation rate: Not applicable	
Flammable limits: LEL: Not applicable		UEL: Not applicable	
Vapor pressure: Not applicable		Vapor density: Not applicable	
Relative density: 2.65		Solubility(ies): Insoluble in water	
Partition coefficient: n-octanol/water: Not applicable		Auto-ignition temperature: Not determined	
Decomposition temperature: Not determined		Viscosity: Not applicable	
Flammability (solid, gas): Not applicable			

10. Stability and Reactivity

Reactivity	Not reactive under normal conditions of use		
Chemical stability	Stable		
Possibility of hazardous reactions	Contact with powerful oxidizing agents, such as fluorine, chlorine trifluoride and oxygen difluoride, may cause fires		
Conditions to avoid	Avoid generation of dust in handling and use.		
Incompatible materials	Powerful oxidizers such as fluorine, chlorine trifluoride, and oxygen difluoride and		

	hydrofluoric acid.
Hazardous decomposition products	Silica will dissolve in hydrofluoric acid and produce a corrosive gas, silicon tetrafluoride.

11. Toxicological Information

Acute effects of exposure			
Inhalation	Inhalation of dust may cause respiratory tract irritation. Symptoms of exposure may include cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath.		
Skin contact	No adverse effects are expected.		
Eye contact	Particulates may cause abrasive injury.		
Chronic effects	Prolonged inhalation of respirable crystalline silica may cause lung disease, silicosis, lung cancer and other effects as indicated below.		
The method of exposure that can lead to the adverse health effects described below is inhalation.			
A. SILICOSIS			
Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute:			
Chronic or Ordinary Silicosis is the most common form of silicosis, and can occur after many years (10 to 20 or more) of prolonged repeated inhalation of relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Complicated silicosis or PMF symptoms, if present, are shortness of breath and cough. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (cor pumonale).			
Accelerated Silicosis can occur with prolonged repeated inhalation of high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that lung lesions appear earlier and progression is more rapid.			
Acute Silicosis can occur after the repeated inhalation of very high concentrations of respirable crystalline silica over a short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough, weakness and weight loss. Acute silicosis is fatal.			
B. CANCER			
IARC - The International Agency for Research on Cancer ("IARC") concluded that “crystalline silica in the form of quartz or cristobalite dust is carcinogenic to humans (Group 1)”. For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 100C,"A Review of Human Carcinogens: Arsenic, Metals, Fibres and Dusts " (2011).			
NTP classifies “Silica, Crystalline (respirable size)” as Known to be a human carcinogen.			
C. AUTOIMMUNE DISEASES			

Several studies have reported excess cases of several autoimmune disorders -- scleroderma, systemic lupus erythematosus, rheumatoid arthritis -- among silica-exposed workers.			
D. TUBERCULOSIS			
Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to tuberculosis bacteria. Individuals with chronic silicosis have a three-fold higher risk of contracting tuberculosis than similar individuals without silicosis.			
E. KIDNEY DISEASE			
Several studies have reported excess cases of kidney diseases, including end stage renal disease, among silica-exposed workers. For additional information on the subject, the following may be consulted: "Kidney Disease and Silicosis", Nephron, Volume 85, pp. 14-19 (2000).			
F. NON-MALIGNANT RESPIRATORY DISEASES			
The reader is referred to Section 3.5 of the NIOSH Special Hazard Review cited below for information concerning the association between exposure to crystalline silica and chronic bronchitis, emphysema and small airways disease. There are studies that disclose an association between dusts found in various mining occupations and non-malignant respiratory diseases, particularly among smokers. It is unclear whether the observed associations exist only with underlying silicosis, only among smokers, or result from exposure to mineral dusts generally (independent of the presence or absence of crystalline silica, or the level of crystalline silica in the dust).			
Sources of information			
The NIOSH Hazard Review - Occupational Effects of Occupational Exposure to Respirable Crystalline Silica published in April 2002 summarizes and discusses the medical and epidemiological Literature on the health risks and diseases associated with occupational exposures to respirable crystalline silica. The NIOSH Hazard Review is available from NIOSH - Publications Dissemination, 4676 Columbia Parkway, Cincinnati, OH 45226, or through the NIOSH web site, www.cdc.gov/niosh/topics/silica, then click on the link "NIOSH Hazard Review: Health Effects of Occupational Exposure to Respirable Crystalline Silica".			
For a more recent review of the health effects of respirable crystalline silica, the reader may consult Fishman's Pulmonary Diseases and Disorders, Fourth Edition, Chapter 57. "Coal Workers' Lung Diseases and Silicosis".			
Finally, the US Occupational Safety and Health Administration (OSHA) published a summary of respirable crystalline silica health effects in connection with OSHA's Proposed Rule regarding occupational exposure to respirable crystalline silica. The summary was published in the September 12, 2013 Federal Register, which can be found at www.federalregister.gov/articles/2013/09/12/2013-20997/occupational-exposure-to-respirable- crystalline-silica.			
Numerical measures of toxicity:			
Crystalline Silica (quartz): LD50 oral rat >22,500 mg/kg			

12. Ecological Information

Ecotoxicity	Crystalline silica (quartz) is not known to be ecotoxic.		
Persistence and degradability	Silica is not degradable		
Bioaccumulative potential	Silica is not bioaccumulative		
Mobility in soil	Silica is not mobile in soil		
Other adverse effects	No data available		

13. Disposal Considerations

Discard any product, residue, disposable container or liner in full compliance with national regulations.

14. Transport Information

UN number	None		
UN proper shipping name	Not regulated		
Transport hazard classes(es)	None		
Packing group, if applicable	None		
Environmental hazards	None		
Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)			
	Not determined		
Special precautions	None known		

15. Regulatory Information

UNITED STATES (FEDERAL AND STATE)			
TSCA Status	Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7.		
RCRA	This product is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.		
CERCLA	Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.		
Emergency Planning and Community Right to Know Act (SARA Title III)	This product contains the following chemicals subject to SARA 302 or SARA 313 reporting: None above the de minimus concentrations.		
Clean Air Act	Crystalline silica (quartz) mined and processed by U.S. Silica Company is not processed with or does not contain any Class I or Class II ozone depleting substances.		
FDA	Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).		
California Proposition 65	Crystalline silica (airborne particles of respirable size) is classified as a substance known to the State of California to be a carcinogen		
California Inhalation Reference Exposure Level (REL)	California established a chronic non-cancer effect REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no non-cancer health effects are anticipated in individuals indefinitely exposed to the substance at that level.		
Massachusetts Toxic Use Reduction Act	Silica, crystalline (respirable size, <10 microns) is “toxic” for purposes of the Massachusetts Toxic Use Reduction Act.		
Pennsylvania Worker and Community Right to Know Act	Quartz is a hazardous substance under the Act, but it is not a special hazardous substance or an environmental hazardous substance		
Texas Commission on Environmental Quality	The Texas CEQ has established chronic and acute Reference Values and short term and long term Effects Screening Levels for crystalline silica (quartz). The information can be		

	accessed through www.tceq.texas.gov.		
CANADA			
Domestic Substances List	U. S. Silica Company products, as naturally occurring substances, are on the Canadian DSL.		
WHMIS Classification:	D2A		
OTHER NATIONAL INVENTORIES			
Australian Inventory of Chemical Substances (AICS)	All of the components of this product are listed on the AICS inventory or exempt from notification requirements		
China	Silica is listed on the IECSC inventory or exempt from notification requirements		
Japan Ministry of International Trade and Industry (MITI)	All of the components of this product are existing chemical substances as defined in the Chemical Substance Control Law Registry Number 1-548.		
Korea Existing Chemicals Inventory (KECI)	(set up under the Toxic Chemical Control Law): Listed on the ECL with registry number 9212-5667		
New Zealand	Silica is listed on the HSNO inventory or exempt from notification requirements		
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed for PICCS		
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed for PICCS		
Taiwan	Silica is listed on the CSNN inventory or exempt from notification requirements.		

16. Other Information, Including Date of Preparation or Last Revision

Date of preparation/revision	December 4, 2017		
Hazardous Material Information System (HMIS)			
	Health *		
	Flammability 0		
	Physical Hazard 0		
	Protective Equipment E		
	* For further information on health effects, see Sections 2, 8 and 11 of this MSDS.		
National Fire Protection Association (NFPA):			
	Health 0		
	Flammability 0		
	Instability 0		
Web Sites with Information about Effects of Crystalline Silica Exposure:			
The U. S. Silica Company web site will provide updated links to OSHA and NIOSH web sites addressing crystalline silica issues: www.ussilica.com, click on “Info Center”, then click on “Health & Safety”.			
The U.S. National Institute for Occupational Safety and Health (NIOSH) and Occupational Safety and Health Administration (OSHA) maintain sites with information about crystalline silica and its potential health effects. For NIOSH, http://www.cdc.gov/niosh/topics/silica; for OSHA, http://www.osha.gov/dsg/topics/silicacrystalline/index.			
The IARC Monograph that includes crystalline silica, Volume 100C, can be accessed in PDF form at the IARC web site, http://monographs.iarc.fr/ENG/Monographs/PDFs/index.php.			

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1. Identification

Material Name	**Sewer Shield® 100** Part D ~11OZ
Other means of identification	
	REFRACTORY CERAMIC FIBER PRODUCT
Recommended use of the chemical and restrictions on use	
Primary Use	Refractory Ceramic Fiber (RCF) materials are used primarily in industrial high temperature insulating applications. Examples include heat shields, heat containment, gaskets, expansion joints, industrial furnaces, ovens, kilns, boilers and other process equipment at applications up to 1400°C. RCF based products are not intended for direct sale to the general public. While RCFs are used in the manufacture of some consumer products, such as catalytic converter mats and wood burning stoves, the materials are contained, encapsulated, or bonded within the units
Secondary Use	Conversion into wet and dry mixtures and articles (refer to section 8)
Tertiary Use	Installation, removal (industrial and professional) / Maintenance and service life (industrial and professional) (refer to section 8).
Uses Advised Against	Spraying of dry product
Name, address, and telephone number	Environmental Coatings LLC 4702 E Virginia Street Mesa, Arizona 85215 US (480) 984-7608
Emergency Phone Number	Chemtrec / 1-800-424-9300

2. Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200	
	The U.S. Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HCS) 2012 indicates that IARC Group 2B corresponds to OSHA HCS 2012 Category 2 carcinogen classification (see, e.g., §1910.1200, Appendix F, Part D).
Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200	
	Under OSHA HCS 2012, RCF is classified as GHS category 2 Carcinogen.
Hazard Pictograms	
	
Signal Words	Warning
Hazard Statements	Suspected of causing cancer by inhalation
Precautionary Statements	Do not handle until all safety instructions have been read and understood
	Use respiratory protection as required; see section 8 of the Safety Data Sheet
	If concerned about exposure, get medical advice
	Store in a manner to minimize airborne dust

	Dispose of waste in accordance with local, state and federal regulations		
Supplementary Information	May cause temporary mechanical irritation to exposed eyes, skin or respiratory tract		
	Minimize exposure to airborne dust		
Emergency Overview			
Describe any hazards not otherwise classified that have been identified during the classification process			
	Mild mechanical irritation to skin, eyes and upper respiratory system may result from exposure. These effects are usually temporary		
Mixture Rule			
	Not applicable		

3. Composition/Information on Ingredients

Composition table			
COMPONENTS		**CAS NUMBER**	**% BY WEIGHT**
Refractories, Fibers, Aluminosilicate		142844-00-6	40 – 100
Water		7732-18-5	0 – 60
Common Name			
RCF, ceramic fiber, Alumino Silicate Wool (ASW), synthetic vitreous fiber (SVF), man-made vitreous fiber (MMVF), man-made mineral fiber (MMMF), high temperature insulation wool (HTIW)			
Impurities and Stabilizing Additives			
Not applicable			

4. First-aid Measures

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion			
Eyes			
If eyes become irritated, flush immediately with large amounts of lukewarm water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Do not rub eyes.			
Skin			
If skin becomes irritated, remove soiled clothing. Do not rub or scratch exposed skin. Wash area of contact thoroughly with soap and water. Using a skin cream or lotion after washing may be helpful.			
Respiratory Tract			
If respiratory tract irritation develops, move the person to a dust free location. See Section 8 for additional measures to reduce or eliminate exposure			
Gastrointestinal			
If gastrointestinal tract irritation develops, move the person to a dust free environment			
Indication of immediate medical attention and special treatment needed, if necessary			

5. Fire-Fighting Measures

Suitable (and unsuitable) extinguishing media and				
Use extinguishing media suitable for type of surrounding fire				
Special Protective Equipment and Precautions for Firefighters				
NFPA Codes	**Flammability: 0**	**Health: 1**	**Reactivity: 0**	**Special: 0**
Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):				
None				

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures
Minimize airborne dust. Compressed air or dry sweeping should not be used for cleaning. See Section 8 "Exposure Controls / Personal Protection" for exposure guidelines
Methods and materials for containment and cleaning up
Frequently clean the work area with vacuum or wet sweeping to minimize the accumulation of debris. Do not use compressed air for clean-up.

7. Handling and Storage

Precautions for safe handling			
Handle fiber carefully to minimize airborne dust. Limit use of power tools unless in conjunction with local exhaust ventilation. Use hand tools whenever possible.			
Conditions for safe storage, including any incompatibilities			
Store in a manner to minimize airborne dust.			
empty containers			
Product packaging may contain residue. Do not reuse.			

8. Exposure Controls/Personal Protection

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended bythe chemical manufacturer, importer, or employer preparing the safety data sheet, where available			
EXPOSURE GUIDELINES			
MAJOR COMPONENT	**OSHA PEL**	**ACGIH TLV**	**MANUFACTURER'S REG**
Refractories, Fibers, Aluminosilicate	None Established*	0.2 f/cc, 8-hr. TWA	0.5 f/cc, 8-hr. TWA**
*Except of in the state of California, there is no specific regulatory standard for RCF in the U.S. OSHA's "Particulate Not Otherwise Regulated (PNOR)" standard [29 CFR 1910.1000, Subpart Z, Air Contaminants] applies generally - Total Dust 15 mg/m3; Respirable Fraction 5 mg/m3. The PEL for RCF in California is 0.2 f/cc, 8-hr TWA			
** HTIW Coalition has sponsored comprehensive toxicology and epidemiology studies to identify potential RCF-related health effects [see Section 11 for more details], consulted experts familiar with fiber and particle science, conducted a thorough review of the RCF-related scientific literature, and further evaluated the data in a state-of-the-art quantitative risk assessment. Based on these efforts and in the absence of an OSHA PEL, HTIW Coalition has adopted a recommended exposure guideline (REG), as measured under NIOSH Method 7400 B. The manufacturers' REG is intended to promote occupational health and safety through feasible exposure controls and reductions as determined by extensive industrial hygiene monitoring efforts undertaken voluntarily and pursuant to an agreement with the U.S. Environmental Protection Agency.			
OTHER OCCUPATIONAL EXPOSURE LEVELS (OEL) RCF-related occupational exposure limits vary internationally. Regulatory OEL examples include: Canada – 0.2 to 1.0 f/cc; Ontario Canada – 0.5 f/cc. United Kingdom – 1.0 f/cc. Non-regulatory OEL examples include: HTIW Coalition REG – 0.5 f/cc. The objectives and criteria underlying each of these OEL decisions also vary. The evaluation of occupational exposure limits and their relative applicability to the workplace is best performed, on a case-by-case basis, by a qualified Industrial Hygienist.			
Appropriate Engineering Controls			
Use engineering controls such as local exhaust ventilation, point of generation dust collection, down draft work stations, emission controlling tool designs and materials handling equipment designed to minimize airborne fiber emissions.			
Individual protection measures, such as personal protective equipment			
PPE – Skin			
Wear personal protective equipment (e.g gloves), as necessary to prevent skin irritation. Washable or			

disposable clothing may be used. If possible, do not take unwashed clothing home. If soiled work clothing must be taken home, employees should be informed on best practices to minimize non-work dust exposure (e.g., vacuum clothes before leaving the work area, wash work clothing separately, and rinse washer before washing other household clothes.			
PPE – Eye			
As necessary, wear goggles or safety glasses with side shields.			
PPE – Respiratory			
When engineering and/or administrative controls are insufficient to maintain workplace concentrations below the 0.5 f/cc REG or a regulatory OEL, the use of appropriate respiratory protection, pursuant to the requirements of OSHA Standards 29 CFR 1910.134 and 29 CFR 1926.103, is recommended. A NIOSH certified respirator with a filter efficiency of at least 95% should be used. The 95% filter efficiency recommendation is based on NIOSH respirator selection logic sequence for exposure to manmade mineral fibers. Pursuant to NIOSH recommendations, N-95 respirators are appropriate for exposures up to 10 times the NIOSH Recommended Exposure Limit (REL). With respect to RCF, both the NIOSH REL and the industry REG have been set at 0.5 fibers per cubic centimeter of air (f/cm3). Accordingly, N- 95 would provide the necessary protection for exposures up to 5 f/cm3. Further, the Respirator Selection Guide published by 3M Corporation, the primary respirator manufacturer, specifically recommends use of N-95 respirators for RCF exposures. In cases where exposures are known to be above 5.0 f/cm3, 8 hour TWA, a filter efficiency of 100% should be used. Other factors to consider are the NIOSH filter series N, R or P -- (N) Not resistant to oil, (R) Resistant to oil and (P) oil Proof. These recommendations are not designed to limit informed choices, provided that respiratory protection decisions comply with 29 CFR 1910.134.			
The evaluation of workplace hazards and the identification of appropriate respiratory protection is best performed, on a case by case basis, by a qualified Industrial Hygienist.			
Other Information			
Concentrations based upon an eight-hour time weighted average (TWA) as determined by air samples collected and analyzed pursuant to NIOSH method 7400 (B) for airborne fibers. The manufacturer recommends the use of a full-face piece air purifying respirator equipped with an appropriate particulate filter cartridge during furnace tear-out events and the removal of used RCF to control exposures to airborne fiber and the potential presence of crystalline silica.			

9. Physical and Chemical Properties

Appearance	White, odorless, fibrous material	
Odor	Not applicable	
Odor Threshold	Not applicable	
pH	Not applicable	
Melting Point	1760°C (3200°F)	
Initial Boiling Point/Range	Not Applicable	
Flashpoint	Not applicable	
Evaporation Rate	Not applicable	
Upper/Lower Flammability or Explosive Limits	Not applicable	
VAPOR PRESSURE	Not applicable	
VAPOR DENSITY	Not applicable	
Solubility	Not soluble in water	
Relative Density	2.50 - 2.75	
Partition Coefficient: n-Octanol/water	Not applicable	
Auto-ignition temperature	Not applicable	
Decomposition Temperature	Not applicable	
Viscosity	Not applicable	

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10. Stability and Reactivity

Reactivity			
	Stable under conditions of normal use.		
Chemical Stability			
	This is a stable material		
Possibility of Hazardous Reaction			
	Not applicable		
Conditions to Avoid			
	Please refer to handling and storage advise in Section 7		
Incompatible Materials			
	None		
Hazardous decomposition products			
	None		

11. Toxicological Information

Acute Toxicity			
Epidemiology			
In order to determine possible human health effects following RCF exposure, the University of Cincinnati has been conducting medical surveillance studies on RCF workers in the U.S.A; this epidemiological study has been ongoing for 25 years and medical surveillance of RCF workers continues. The Institute of Occupational Medicine (IOM) has conducted medical surveillance studies on RCF workers in European manufacturing facilities.			
Pulmonary morbidity studies among production workers in the U.S.A. and Europe have demonstrated an absence of interstitial fibrosis. In the European study a reduction of lung capacity among smokers has been identified, however, based on the latest results from a longitudinal study of workers in the U.S.A. with over 17-year follow-up, there has been no accelerated rate of loss of lung function (McKay et al. 2011).			
A statistically significant correlation between pleural plaques and cumulative RCF exposure was evidenced in the U.S.A. longitudinal study			
The U.S.A. mortality study showed no excess mortality related to all deaths, all cancer, or malignancies or diseases of the respiratory system including mesothelioma (LeMasters et al. 2003).			
Toxicology			
	Acute toxicity: short term inhalation		
		No data available: Short term tests have been undertaken to determine fiber (bio) solubility rather than toxicity; repeat dose inhalation tests have been undertaken to determine chronic toxicity and carcinogenicity	
	Acute toxicity: oral		
		No data available: Repeated dose studies have been carried out using gavage. No effect was found	
	Skin corrosion/irritation		
		Not a chemical irritant according to test method OECD no. 404	
	Serious eye damage/irritation		
		Not possible to obtain acute toxicity information due to the morphology and chemical inertness of the substance	
	Respiratory or skin sensitization		
		No evidence from human epidemiological studies of any respiratory or skin sensitization potential	
	Germ cell mutagenicity/genotoxicity		

		Method: In vitro micronucleus test
		Species: Hamster (CHO)
		Dose: 1-35 mg/ml
		Routes of administration: In suspension
		Results: Negative
	Carcinogenicity	
		Method: Inhalation, multi-dose
		Species: Rat
		Dose: 3 mg/m^3, 9 mg/m^3 and 16 mg/m^3
		Routes of administration: Nose only inhalation
		Results: Fibrosis just reached significant levels at 16 and 9 mg/m3 but not at 3 mg/m3. None of the parenchymal tumor incidences were higher than the historical control values for this strain of animal
		Method: Inhalation, single dose
		Species: Rat
		Dose: 30 mg/m^3
		Routes of administration: Nose only inhalation
		Results: Rats were exposed to a single concentration of 200 WHO fibers/ml specially prepared RCF for 24 months. High incidence of exposure-related pulmonary neoplasms (bronchoalveolar adenomas and carcinomas) was observed. A small number of mesotheliomas were observed in each of the fiber exposure groups (Mast et al 1995a).
		Method: Inhalation, single dose
		Species: Hamster
		Dose: 30 mg/m^3
		Routes of administration: Nose only inhalation
		Results: Hamsters were exposed to a single concentration of 260 WHO fibers/ml specially prepared RCF for 18 months and developed lung fibrosis, a significant number of pleural mesotheliomas (42/102) but no primary lung tumors (McConnell et al 1995).
		Method: Inhalation, single dose
		Species: Rat
		Dose: RCF1: 130 F/ml and 50 mg/m^3 (25% of non-fibrous particles)
		RCF1a: 125 F/ml and 26 mg/m^3 (2% of non-fibrous particles)
		Routes of administration: Nose only inhalation
		Results: Rats were exposed to RCF1 and RCF1a for 3 weeks. The objective of the study was to compare lung retention and biological effects of the original RCF1 compared to RCF1a. The main difference of these 2 samples was the non-fibrous particle content of respectively 25% versus 2%. The post treatment observation was 12 months. Alveolar clearance was barely retarded after RCF1A exposure. After RCF1 exposure, however, a severe retardation of clearance was observed. (Bellmann et al 2001).
		After intraperitoneal injection of ceramic fibers into rats in three experiments (Smith et al 1987, Pott et al 1987, Davis et al 1984), mesotheliomas were found in the abdominal cavity in

		two studies, while the third report (Pott et al 1987) had incomplete histopathology. Only a few mesotheliomas were found in the abdominal cavity of hamsters after intraperitoneal injection in one experiment (Smith et al 1987). However, the ceramic fibers tested were of relatively large diameter. When rats and hamsters were exposed via intraperitoneal injection, tumor incidence was related to fiber length and dose (Smith et al 1987, Pott et al 1987, Miller et al 1999, Pott et al 1989). (From SCOEL publication (EU Scientific Committee on Occupational Exposure Limits) SCOEL/SUM/165, September 2011).		
	Reproductive toxicity			
		Method: Gavage		
		Species: Rat		
		Dose: 250mg/kg/day		
		Routes of administration: Oral		
		Results: No effects were seen in an OECD 421 screening study. There are no reports of any reproductive toxic effects of mineral fibers. Exposure to these fibers is via inhalation and effects seen are in the lung. Clearance of fibers is via the gut and the feces, so exposure of the reproductive organs is extremely unlikely.		
	STOT-Single exposure			
		Not applicable		
	STOT-Repeated exposure			
		Not applicable		
	Aspiration hazard			
		Not applicable		
See the following review publications for a summary and discussion				
Interpretation of these animal experiments is complex and there is not complete agreement among scientists internationally. A summary of the evidence relating to RCF carcinogenicity in vivo can be found in SCOEL/SUM/165 and in Utell and Maxim 2010.				
Other information				
Numerous studies indicate the relevance of bio persistence as a determinant of toxic effects of fiber exposure. (Maxim et al 2006).				
Irritant Properties				
Negative results have been obtained in animal studies (EU method B 4) for skin irritation. Inhalation exposures using the nose only route produce simultaneous heavy exposures to the eyes, but no reports of excess eye irritation exist. Animals exposed by inhalation similarly show no evidence of respiratory tract irritation.				
Human data confirm that only mechanical irritation, resulting in itching, occurs in humans. Screening at manufacturers' plants in the UK has failed to show any human cases of skin conditions related to fiber exposure.				
International Agency for Research on Cancer and National Toxicology Program				
IARC, in 1988, Monograph v.43 (and later reaffirmed in 2002, v.81), classified RCF as possibly carcinogenic to humans (group 2B). IARC evaluated the possible health effects of RCF as follows				
There is inadequate evidence in humans for the carcinogenicity of RCF. There is sufficient evidence in experimental animals for the carcinogenicity of RCF. The Annual Report on Carcinogens (latest edition), prepared by NTP, classified respirable RCF as "reasonably anticipated" to be a carcinogen). Not classified by OSHA				

12. Ecological Information

13. Disposal Considerations

Waste Management and Disposal			
To prevent waste materials from becoming airborne during waste storage, transportation and disposal, a covered container or plastic bagging is recommended			
Additional information			
This product, as manufactured, is not classified as a listed or characteristic hazardous waste according to U. S. Federal regulations (40 CFR 261). Any processing, use, alteration or chemical additions to the product, as purchased, may alter the disposal requirements. Under U. S. Federal regulations, it is the waste generator's responsibility to properly characterize a waste material, to determine if it is a "hazardous" waste. Check local, regional, state or provincial regulations to identify all applicable disposal requirements.			

14. Transport Information

UN number			
	Hazard Class: Not Regulated United Nations (UN) Number: Not Applicable		
	Labels: Not Applicable North America (NA) Number: Not Applicable		
	Placards: Not Applicable Bill of Lading: Product Name		
UN proper shipping name			
	Not applicable		
Transport hazard class(es)			
	Not applicable		
Packing group, if applicable			
	Not applicable		
Environmental hazards (e.g., Marine pollutant (Yes/No))			
	No.		
Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)			
	Not regulated		
Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises			
	Not applicable		
International			
	INTERNATIONAL		
	Canadian TDG Hazard Class & PIN: Not regulated		
	Not classified as dangerous goods under ADR (road), RID (train), IATA (air) or IMDG (ship).		

15. Regulatory Information

United States Regulations		
UNITED STATES REGULATIONS EPA: Superfund Amendments and Reauthorization Act (SARA) Title III - This product does not contain any substances reportable under Sections 302, 304, 313, (40 CFR 372). Sections 311 and 312 (40 CFR 370) apply (delayed hazard). Toxic Substances Control Act (TSCA)– RCF has been assigned a CAS number; however, it is not required to be listed on the TSCA inventory. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Clean Air Act (CAA) - RCF contains fibers with an average diameter greater than one micron and thus is not considered a hazardous air pollutant. OSHA: Comply with Hazard Communication Standards 29 CFR 1910.1200 and 29 CFR 1926.59 and the Respiratory Protection Standards 29 CFR 1910.134 and 29 CFR 1926.103. California: Ceramic fibers (airborne particles of respirable size) is listed in Proposition 65, The Safe Drinking Water and Toxic Enforcement Act of 1986		

as a chemical known to the State of California to cause cancer. Other States: RCF products are not known to be regulated by states other than California; however, state and local OSHA and EPA regulations may apply to these products. If in doubt, contact your local regulatory agency.

International Regulations		
INTERNATIONAL REGULATIONS Canada: Canadian Workplace Hazardous Materials Information System (WHMIS) - RCF is classified as Class D2A - Materials Causing Other Toxic Effects Canadian Environmental Protection Act (CEPA)- All substances in this product are listed, as required, on the Domestic Substances List (DSL) European Union: European Directive 97/69/EC classified RCF as a Category 2 carcinogen; that is it "should be regarded as if it is carcinogenic to man." REACH Regulation: RCF is classified under the CLP (classification, labelling and packaging of substances and mixtures) regulation as a category 1B carcinogen. On January 13, 2010 the European Chemicals Agency (ECHA) updated the candidate list for authorization (Annex XV of the REACH regulation) and added 14 new substances in this list including aluminosilicate refractory ceramic fibers. As a consequence, EU (European Union) or EEA (European Economic Area) suppliers of articles which contain aluminosilicate refractory ceramic fibers in a concentration above 0.1% (w/w) have to provide sufficient information, available to them, to their customers or upon requests to a consumer within 45 days of the receipt of the request. This information must ensure safe use of the article, and as minimum contains the name of the substance.		

16. Other Information, Including Date of Preparation or Last Revision

Initial statement			
Devitrification			
As produced, all RCF fibers are vitreous (glassy) materials which do not contain crystalline silica. Continued exposure to elevated temperatures over time may cause these fibers to devitrify (become crystalline). The first crystalline formation (mullite) begins to occur at approximately 985° C (1805° F). Crystalline phase silica may begin to form at approximately 1100° C (2012° F). When the glass RCF fibers devitrify, they form a mixed mineral crystalline silica containing dust. The crystalline silica is trapped in grain boundaries within a matrix predominately consisting of mullite. The occurrence and extent of crystalline phase formation is dependent on the duration and temperature of exposure, fiber chemistry and/or the presence of fluxing agents or furnace contaminants. The presence of crystalline phases can be confirmed only through laboratory analysis of the "hot face" fiber.			
IARC's evaluation of crystalline silica states "Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)" and additionally notes "carcinogenicity in humans was not detected in all industrial circumstances studied." IARC also studied mixed mineral crystalline silica containing dusts such as coal dusts (containing 5–15 % crystalline silica) and diatomaceous earth without seeing any evidence of disease. (IARC Monograph Vol. 68, 1997). NTP lists all polymorphs of crystalline silica as substances which may "reasonably be anticipated to be carcinogens".			
IARC and NTP did not evaluate after-service RCF, which may contain various crystalline phases. However, an analysis of after-service RCF samples obtained pursuant to an exposure monitoring agreement with the EPA, found that in the furnace conditions sampled, most did not contain detectable levels of crystalline silica. Other relevant RCF studies found that (1) simulated after-service RCF showed little, or no, activity where exposure was by inhalation or by intraperitoneal injection; and (2) after-service RCF was not cytotoxic to macrophage-like cells at concentrations up to 320 micrograms/cm² - by comparison, pure quartz or cristobalite were significantly active at much lower levels (circa 20 micrograms/cm²).			
HMIS HAZARD RATING			
HMIS Health		1* (* denotes potential for chronic effects)	
HMIS Flammable		0	

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HMIS Reactivity		0	
HMIS Personal Protective Equipment		X (To be determined by user)	
TECHNICAL DATASHEETS			
514-500, 514-200, 514-1065, 514-1060, 514-1055, 514-1050, 514-1040, 514-1030, 514-1020, 514-1012, 514-1011, 514-1010, 514-1006, 514-1005, 514-1005, 514-1001, 514-1000, 514-956, 514-955, 514-946, 514-945, 514-935, 514-906, 514-905, 514-806, 514-805, 514-804, 514-803, 514-801, 514-800, 514-250, 514-220, 514-215, 514-205			
Revision Summary			
In May 2015 this SDS has been updated to GHS format in conformance with US OSHA HCS 2012 (29CFR 1910.1200) and Canada Hazardous Products Act and the Hazardous Products Regulations.			
Disclaimer			
The information presented herein is presented in good faith and believed to be accurate as of the effective date of this Safety Data Sheet. Employers may use this SDS to supplement other information gathered by them in their efforts to assure the health and safety of their employees and the proper use of the product. This summary of the relevant data reflects professional judgment; employers should note that information perceived to be less relevant has not been included in this SDS. Therefore, given the summary nature of this document, Environmental Coatings does not extend any warranty (expressed or implied), assume any responsibility, or make any representation regarding the completeness of this information or its suitability for the purposes envisioned by the user.			