

Asphalt sealer



**MICRO
TRENCH** **SUPERGROUT™**

Product Technical Package



Patent Pending

Technical Bulletin #003-09

www.MTsupergrout.com

SuperGrout Products, LLC
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Saginaw, MI 48605
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Product Overview

Micro Trench SuperGrout is an engineered, cementitious, non-shrinking grout designed specifically for micro trench applications related to fiber optic and fiber optic conduit deployment using mobile micro-trenching technology. It is extremely fluid when mixed with water according to the manufacturers specifications, and can easily be pumped into the trench using standard grout pumping equipment. Due to its fluidity upon mixing, Micro-trench SuperGrout will flow and encapsulate the fiber optic conduit or structures without voids. Upon hardening, SuperGrout provides the fiber optic conduit or structure a protective, non-shrinking and impermeable encasement system which will reduce fiber damage and breaks. If repairs are needed at a future time, SuperGrout can be easily removed; the fiber repaired; then replaced with a new, fluid SuperGrout patch which can be mixed and poured into the repair area restoring the exact performance of the protective system. Micro-Trench SuperGrout is designed to allow for a high strength bond with the asphaltic sealer which is placed on top of the SuperGrout column for complete closure of the deployment. Although this system is strong and protective, the SuperGrout column can easily be milled simultaneously during road resurfacing techniques.

SPECIFICATIONS

Product:	Micro Trench SuperGrout
Package:	70# Plastic Lined Paper Bags 50# Plastic Lined Paper Bags
Mix Design:	Add Five (5.0) gallons of cool water per 70# bag Add three and six tenths (3.6) gallons of cool water per 50# bag

The information provided herein by SuperGrout Products, LLC is believed to be accurate at the time of preparation or prepared from sources believed to be reliable. Users have the responsibility to comply with all health and safety laws, as well as environmental regulations when using this product, and should determine the suitability of the product for its intended use. Seller makes no warranty, express or implied, concerning the product or the merchantability or fitness thereof for any purpose or concerning the accuracy of information provided by SuperGrout Products, LLC.



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- Blended Yield: 7.0 Gallons of Grout per 70# Bag
5.0 Gallons of Grout per 50# Bag
- Blended W/C Ratio: 0.595 (Based on 5.0 gallons of water per 70# bag)
0.595 (Based on 3.6 gallons of water per 50# bag)
- Solids by weight of slurry: 62.7% (5.0 gallons of water per 70# bag, OR .595 W/C ratio)
- Shrinkage: <0.58 % at ambient
- Avg. Strength @ 28 days: 2000 psi (in compression)
- Stiffening Cycle:
 - Stiffening: Within 20 minutes of placement in trench
 - Sealer Application: Within 6-12 hours
 - Placed into Service: Upon completion of asphalt sealer cycle
 - Ultimate Strength: 14-28 days

PERMEABILITY

Because Micro Trench SuperGrout is unlike other grouting materials and includes cementitious properties, significant amounts of additional calcium silicates are produced upon hydration and hardening which significantly reduces the permeability of hydraulic and non-hydraulic liquids. These silicates are also an effective neutralization of any concerns related to surrounding acidic soil conditions and provides perpetual protection of the system from such soils. Typically, a grouting material is termed impermeable with hydraulic permeability results that reach $<1 \times 10^{-7}$, Micro Trench SuperGrout is far more impermeable based on the below ASTM results. This is due to the small particle size of the SuperGrout components averaging ~5 microns in size. This impermeable encasement ensures the fiber, conduit and trench stays moisture free.

**RESULTS
ASTM D-5084**

Age	cm/s
Fresh	$<2 \times 10^{-6}$
5 Days	$<3 \times 10^{-8}$
13 Days	$<1 \times 10^{-10}$
Ultimate	$<1 \times 10^{-11}$

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www.MTsupergrout.com

Key Contact Information and Product Ordering Information

Customer Service and Order line: Dena Prime
SuperGrout Products, LLC, LLC
(888) 299-3860 Toll Free
(989) 771-4701 Direct
Fax (989) 771-8701
dena@supergroutproducts.com

Technical Service Questions: David Bazzell
SuperGrout Products, LLC, LLC
(580) 336-8235 Fax (989) 771-8701
david@supergroutproducts.com

Please order materials for projects with plenty of lead-time to take into account for transportation and delivery logistics. Two (2) weeks in advance of the date trenching is needed will be satisfactory.

Mixer Setup and Mixing Instructions

70 lb Bags

Add Five (5.0) gallons (19 Liters) of potable water per 70 lb bag of MT SuperGrout. THIS MIX PROPORTION WILL YIELD SEVEN (7) GALLONS OF GROUT.

Before mixing the first batch in the mixer, measure exactly in Five (5) gallon (19 Liters) increments of water pouring into the mixing vessel and marking on the inside mixer surface each Five (5) gallon (19 Liter) level. Markings should be permanent and not easily removed. Repeat until the level clearly reaches the “full” level, recognizing grout volume growth when mixed.

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Batch by filling water level into the mixer for the entire batch to the desired mark i.e.: A 35 gallon mixer will require water addition of four (4) level marks (20 gallons total), four level marks on the mixer then requires four (4) 70 lb bags of MT SuperGrout. This mix design will yield 28 gallons of finished grout. Turn mixer on, while agitating water, slowly add SuperGrout so as to not choke mixer RPM's down. Mix product thoroughly for 3-4 minutes or until no lumps are noticed in the mixer and the grout is a homogeneous mixture.

- **DO NOT MIX PARTIAL BAGS**
- **ALWAYS WEAR PERSONAL PROTECTION EQUIPMENT WHEN MIXING AND HANDLING GROUT**
- **ALWAYS FOLLOW MIXER AND PUMP MANUFACTURERS OPERATING INSTRUCTIONS**

50 lb Bags

Add three and six tenths (3.6) gallons (13.5 Liters) of potable water per 50 lb bag of MT SuperGrout. THIS MIX PROPORTION WILL YIELD FIVE (5) GALLONS OF GROUT.

Before mixing the first batch in the mixer, measure exactly in Three and six tenths (3.6) gallon (13.5 Liters) increments of water pouring into the mixing vessel and marking on the inside mixer surface each Three and six tenths (3.6) gallon (13.5 Liter) level. Markings should be permanent and not easily removed. Repeat until the level clearly reaches the "full" level, recognizing grout volume growth when mixed.

Batch by filling water level into the mixer for the entire batch to the desired mark i.e.: A 35 gallon mixer will require water addition of six (6) level marks (21.5 gallons total), six level marks on the mixer then requires six (6) 50 lb bags of MT SuperGrout. This mix design will yield 30 gallons of finished grout. Turn mixer on, while agitating water, slowly add SuperGrout so as to not choke mixer RPM's down. Mix product thoroughly for 3-4 minutes or until no lumps are noticed in the mixer and the grout is a homogeneous mixture.

- **DO NOT MIX PARTIAL BAGS**
- **ALWAYS WEAR PERSONAL PROTECTION EQUIPMENT WHEN MIXING AND HANDLING GROUT**
- **ALWAYS FOLLOW MIXER AND PUMP MANUFACTURERS OPERATING INSTRUCTIONS**

Cleanup and Mixer /Pump Flushing

Micro Trench SuperGrout is a cementitious product that when subjected to moisture will harden. After use or extended periods of operation, periodically flush all equipment, hoses, pumps, nozzles etc with clean water. Additional manual brushing may be required for extreme conditions. Never allow SuperGrout to sit idle in mixers, pumps, hoses or nozzles for more than 20 minutes, and in extreme temperatures, 15 minutes.

Never allow Micro Trench SuperGrout to harden completely as cleanup will be extremely difficult and could cause equipment damage and failure. Always follow MSDS Personal Protective Equipment and First Aid requirements, located in Sections 4 & 5 of the MSDS (below), when cleaning or in contact with Micro Trench SuperGrout.

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RTI LABORATORIES, INC.

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TEL: 734.422.8000
FAX: 734.422.5342
Website: www.rtilab.com

Case Narrative

WO#: 0809967
Date: 10/31/2008

CLIENT: SuperGrout Products
Project: SuperGrout

This report in its entirety consists of the documents listed below. All documents contain the RTI Work Order Number assigned to this report.

1. Paginated Report including: Case Narrative, Analytical Results and Applicable Quality Control Summary Reports.
2. A Cover Letter that immediately precedes the Paginated Report.
3. Paginated copies of the Chain of Custody Documents supplied with this sample set.

Concentrations reported with a J flag in the Qual field are values below the reporting limit (RL) but greater than the established method detection limit (MDL). There is greater uncertainty associated with these results and data should be considered as estimated.

Concentrations reported with an E flag in the Qual field are values that exceed the upper quantification range. There is greater uncertainty associated with these results and data should be considered as estimated.

Any comments or problems with the analytical events associated with this report are noted below.

The EPA has withdrawn the tests for Reactive Cyanide and Reactive Sulfide. There is no guidance nor reference for testing wastes for Cyanide or Sulfide other than for total concentrations. The generator is required to provide a narrative description of the reactivity of the waste according to 40CFR261.23 for the Characteristic of Reactivity.

All sample analyses reported were performed on TCLP extracts following procedures specified in SW-846, Method 1311.

The permeability test on the "In place Hardened Grout" sample has been separated into a separate workorder which will be forwarded as soon as the results are received at RTI Laboratories.



RTI LABORATORIES, INC.

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Website: www.rtilab.com

Analytical Report

(consolidated)

WO#: **0809967**

Date Reported: **10/31/2008**

CLIENT: SuperGrout Products

Collection Date: 9/25/2008

Project: SuperGrout

Lab ID: 0809967-001

Matrix: SOLID

Client Sample ID Supergrout

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**TCLP RCRA METALS
METALS, ICP/MS**

SW6020A

Analyst: **AV**

Arsenic	ND	0.010		mg/L	10	10/4/2008 1:53:10 PM
Barium	0.76	0.020		mg/L	10	10/4/2008 1:53:10 PM
Cadmium	0.0014	0.0010		mg/L	10	10/4/2008 1:53:10 PM
Chromium	0.10	0.010		mg/L	10	10/4/2008 1:53:10 PM
Lead	ND	0.010		mg/L	10	10/4/2008 1:53:10 PM
Selenium	0.029	0.010		mg/L	10	10/4/2008 1:53:10 PM
Silver	ND	0.0010		mg/L	10	10/4/2008 2:50:03 PM

**TCLP RCRA METALS
MERCURY**

SW7470A

Analyst: **AB2**

Mercury	ND	0.00020		mg/L	1	10/7/2008 3:59:17 PM
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Qualifiers:	*X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits



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Analytical Report

(consolidated)

WO#: 0809967

Date Reported: 10/31/2008

CLIENT: SuperGrout Products

Collection Date:

Project: SuperGrout

Lab ID: 0809967-002

Matrix: SOLID

Client Sample ID In place Hardened Grout

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**TCLP RCRA METALS
METALS, ICP/MS**

SW6020A

Analyst: **AV**

Arsenic	0.011	0.010		mg/L	10	10/7/2008 3:29:17 PM
Barium	0.13	0.020		mg/L	10	10/7/2008 3:29:17 PM
Cadmium	ND	0.0010		mg/L	10	10/7/2008 3:29:17 PM
Chromium	0.037	0.010		mg/L	10	10/7/2008 3:29:17 PM
Lead	ND	0.010		mg/L	10	10/7/2008 3:29:17 PM
Selenium	0.016	0.010		mg/L	10	10/7/2008 3:29:17 PM
Silver	0.0065	0.0010		mg/L	10	10/7/2008 4:53:33 PM

**TCLP RCRA METALS
MERCURY**

SW7470A

Analyst: **AB2**

Mercury	ND	0.00020		mg/L	1	10/7/2008 3:36:08 PM
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Qualifiers:						
*X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank			
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded			
M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit			
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits			

CLIENT: SuperGrout Products
 Work Order: 0809967
 Project: SuperGrout

QC SUMMARY REPORT

BatchID: 12564

Sample ID: 0810033-001AMS	SampType: MS	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/3/2008	RunNo: 23786						
Client ID: ZZZZZZ	Batch ID: 12564	TestNo: SW6020A		Analysis Date: 10/4/2008	SeqNo: 396939						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.1	0.0020	1,000	71.59	102	75	125				
Barium	1.9	0.020	1,000	946.6	94.7	75	125				
Cadmium	0.94	0.010	1,000	1.588	94.3	75	125				
Chromium	1.0	0.010	1,000	42.30	97.8	75	125				
Lead	0.95	0.0060	1,000	26.89	92.7	75	125				
Selenium	1.3	0.010	1,000	323.0	97.0	75	125				

Sample ID: 0810033-001AMSD	SampType: MSD	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/3/2008	RunNo: 23786						
Client ID: ZZZZZZ	Batch ID: 12564	TestNo: SW6020A		Analysis Date: 10/4/2008	SeqNo: 396940						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.1	0.0020	1,000	71.59	101	75	125	1,095	0.942	25	
Barium	1.9	0.020	1,000	946.6	95.3	75	125	1,894	0.309	25	
Cadmium	0.92	0.010	1,000	1.588	91.6	75	125	944.2	2.86	25	
Chromium	1.0	0.010	1,000	42.30	96.0	75	125	1,020	1.81	25	
Lead	0.98	0.0060	1,000	26.89	95.0	75	125	953.9	2.39	25	
Selenium	1.3	0.010	1,000	323.0	97.3	75	125	1,293	0.278	25	

Sample ID: LCS-12564	SampType: LCS	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/3/2008	RunNo: 23786						
Client ID: LCSW	Batch ID: 12564	TestNo: SW6020A		Analysis Date: 10/4/2008	SeqNo: 396947						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.0	0.0020	1,000	0	102	80	120				
Barium	1.0	0.020	1,000	0	101	80	120				
Cadmium	0.94	0.010	1,000	0	94.2	80	120				
Chromium	1.0	0.010	1,000	0	101	80	120				
Lead	0.97	0.0060	1,000	0	96.7	80	120				
Selenium	0.98	0.010	1,000	0	98.2	80	120				

Qualifiers: *X Value exceeds Maximum Contaminant Level E Value above quantitation range H Holding times for preparation or analys
 M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
 RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: SuperGrout Products
 Work Order: 0809967
 Project: SuperGrout

QC SUMMARY REPORT

BatchID: 12564

Sample ID: MB-12564	SampType: MBLK	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/3/2008	RunNo: 23786						
Client ID: PBW	Batch ID: 12564	TestNo: SW6020A		Analysis Date: 10/4/2008	SeqNo: 396948						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.00020									
Barium	ND	0.0020									
Cadmium	ND	0.0010									
Chromium	ND	0.0010									
Lead	ND	0.00060									
Selenium	ND	0.0010									

Qualifiers: *X Value exceeds Maximum Contaminant Level E Value above quantitation range H Holding times for preparation or analys
 M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
 RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: SuperGrout Products
 Work Order: 0809967
 Project: SuperGrout

QC SUMMARY REPORT

BatchID: 12565

Sample ID: LCS-12565	SampType: LCS	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/3/2008	RunNo: 23786						
Client ID: LCSW	Batch ID: 12565	TestNo: SW6020A		Analysis Date: 10/4/2008	SeqNo: 396961						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.99	0.0020	1,000	0	98.7	80	120				

Sample ID: MB-12565	SampType: MBLK	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/3/2008	RunNo: 23786						
Client ID: PBW	Batch ID: 12565	TestNo: SW6020A		Analysis Date: 10/4/2008	SeqNo: 396962						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.00020									

Sample ID: 0810033-001AMS	SampType: MS	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/3/2008	RunNo: 23786						
Client ID: ZZZZZZ	Batch ID: 12565	TestNo: SW6020A		Analysis Date: 10/4/2008	SeqNo: 396964						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.83	0.0020	1,000	0	83.5	75	125				

Sample ID: 0810033-001AMSD	SampType: MSD	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/3/2008	RunNo: 23786						
Client ID: ZZZZZZ	Batch ID: 12565	TestNo: SW6020A		Analysis Date: 10/4/2008	SeqNo: 396965						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.88	0.0020	1,000	0	88.3	75	125	834.9	5.55	25	

Qualifiers: *X Value exceeds Maximum Contaminant Level E Value above quantitation range H Holding times for preparation or analysis
 M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
 RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: SuperGrout Products
 Work Order: 0809967
 Project: SuperGrout

QC SUMMARY REPORT

BatchID: 12593

Sample ID: MB-12593	SampType: MBLK	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23845						
Client ID: PBW	Batch ID: 12593	TestNo: SW6020A		Analysis Date: 10/7/2008	SeqNo: 398108						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	0.00020									
Barium	ND	0.0020									
Cadmium	ND	0.0010									
Chromium	ND	0.0010									
Lead	ND	0.00060									
Selenium	ND	0.0010									

Sample ID: 0809967-002BMS	SampType: MS	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23845						
Client ID: In place Hardened G	Batch ID: 12593	TestNo: SW6020A		Analysis Date: 10/7/2008	SeqNo: 398160						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	1.1	0.0020	1,000	11.01	104	75	125				
Barium	1.0	0.020	1,000	133.5	91.1	75	125				
Cadmium	0.95	0.010	1,000	0	94.5	75	125				
Chromium	0.99	0.010	1,000	36.56	95.7	75	125				
Lead	0.94	0.0060	1,000	0	93.5	75	125				
Selenium	1.0	0.010	1,000	16.13	101	75	125				

Sample ID: 0809967-002BMSD	SampType: MSD	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23845						
Client ID: In place Hardened G	Batch ID: 12593	TestNo: SW6020A		Analysis Date: 10/7/2008	SeqNo: 398161						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	1.0	0.0020	1,000	11.01	102	75	125	1,055	1.87	25	
Barium	1.0	0.020	1,000	133.5	90.1	75	125	1,045	0.956	25	
Cadmium	0.92	0.010	1,000	0	91.9	75	125	945.2	2.83	25	
Chromium	0.98	0.010	1,000	36.56	94.4	75	125	993.6	1.28	25	
Lead	0.91	0.0060	1,000	0	91.2	75	125	935.1	2.50	25	
Selenium	0.98	0.010	1,000	16.13	96.8	75	125	1,023	3.85	25	

Qualifiers: *X Value exceeds Maximum Contaminant Level E Value above quantitation range H Holding times for preparation or analysis
 M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
 RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: SuperGrout Products
 Work Order: 0809967
 Project: SuperGrout

QC SUMMARY REPORT

BatchID: 12593

Sample ID: LCS-12593	SampType: LCS	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23845						
Client ID: LCSW	Batch ID: 12593	TestNo: SW6020A		Analysis Date: 10/7/2008	SeqNo: 398170						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.0	0.0020	1,000	0	102	80	120				
Barium	0.95	0.020	1,000	0	95.1	80	120				
Cadmium	0.96	0.010	1,000	0	95.9	80	120				
Chromium	0.99	0.010	1,000	0	98.8	80	120				
Lead	0.97	0.0060	1,000	0	96.8	80	120				
Selenium	1.0	0.010	1,000	0	99.7	80	120				

Qualifiers: *X Value exceeds Maximum Contaminant Level E Value above quantitation range H Holding times for preparation or analysis
 M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
 RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: SuperGrout Products
 Work Order: 0809967
 Project: SuperGrout

QC SUMMARY REPORT

BatchID: 12594

Sample ID: 0809967-002BMS	SampType: MS	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23845						
Client ID: In place Hardened G	Batch ID: 12594	TestNo: SW6020A		Analysis Date: 10/7/2008	SeqNo: 398212						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.96	0.0020	1,000	12.19	95.0	75	125				

Sample ID: LCS-12594	SampType: LCS	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23845						
Client ID: LCSW	Batch ID: 12594	TestNo: SW6020A		Analysis Date: 10/7/2008	SeqNo: 398216						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.90	0.0020	1,000	0	89.8	80	120				

Sample ID: MB-12594	SampType: MBLK	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23845						
Client ID: PBW	Batch ID: 12594	TestNo: SW6020A		Analysis Date: 10/7/2008	SeqNo: 398217						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.00020									

Sample ID: 0809967-002BMSD	SampType: MSD	TestCode: SW_6020A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23845						
Client ID: In place Hardened G	Batch ID: 12594	TestNo: SW6020A		Analysis Date: 10/7/2008	SeqNo: 398218						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.91	0.0020	1,000	12.19	89.5	75	125	962.6	5.89	25	

Qualifiers: *X Value exceeds Maximum Contaminant Level E Value above quantitation range H Holding times for preparation or analysis
 M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
 RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: SuperGrout Products
 Work Order: 0809967
 Project: SuperGrout

QC SUMMARY REPORT

BatchID: 12599

Sample ID: MB-12599	SampType: MBLK	TestCode: SW_7470A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23820						
Client ID: PBW	Batch ID: 12599	TestNo: SW7470A		Analysis Date: 10/7/2008	SeqNo: 398283						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.00020

Sample ID: LCS-12599	SampType: LCS	TestCode: SW_7470A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23820						
Client ID: LCSW	Batch ID: 12599	TestNo: SW7470A		Analysis Date: 10/7/2008	SeqNo: 398284						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.00088 0.00020 1.000 0 88.4 80 120

Qualifiers: *X Value exceeds Maximum Contaminant Level E Value above quantitation range H Holding times for preparation or analys
 M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
 RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits

CLIENT: SuperGrout Products
 Work Order: 0809967
 Project: SuperGrout

QC SUMMARY REPORT

BatchID: 12600

Sample ID: MB-12600	SampType: MBLK	TestCode: SW_7470A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23820						
Client ID: PBW	Batch ID: 12600	TestNo: SW7470A		Analysis Date: 10/7/2008	SeqNo: 398294						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.00020

Sample ID: LCS-12600	SampType: LCS	TestCode: SW_7470A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23820						
Client ID: LCSW	Batch ID: 12600	TestNo: SW7470A		Analysis Date: 10/7/2008	SeqNo: 398295						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.0010 0.00020 1.000 0 103 80 120

Sample ID: 0810033-001AMS	SampType: MS	TestCode: SW_7470A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23820						
Client ID: ZZZZZZ	Batch ID: 12600	TestNo: SW7470A		Analysis Date: 10/7/2008	SeqNo: 398297						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.0012 0.00020 1.000 0.1458 105 80 120

Sample ID: 0810033-001AMSD	SampType: MSD	TestCode: SW_7470A	Units: µg/L	Prep Date: 10/7/2008	RunNo: 23820						
Client ID: ZZZZZZ	Batch ID: 12600	TestNo: SW7470A		Analysis Date: 10/7/2008	SeqNo: 398298						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.0012 0.00020 1.000 0.1458 107 80 120 1.193 2.25 20

Qualifiers: *X Value exceeds Maximum Contaminant Level E Value above quantitation range H Holding times for preparation or analys
 M Manual Integration used to determine area response ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
 RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits



Material Safety Data Sheet

Section 1: PRODUCT AND COMPANY INFORMATION

Product Name(s): Micro Trench SuperGrout

Manufacturers Name: SuperGrout Products, LLC
P.O. Box 3484
Saginaw, Michigan 48605

Telephone Numbers: 888-299-3860 Fax (989) 771-8701

Product Use: Non-shrinking cementitious grout used exclusively for filling micro-trenches cut in pavements for use in fiber optic deployments. The material flows and hardens around fiber optic conduit and protects such fiber optics from damage or movement.

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	Percent (By Weight)	CAS Number	OSHA PEL-TWA (mg/m ³)	ACGIH TLV TWA (mg/m ³)	LD ₅₀ (Mouse, intraperitoneal)
Portland Cement	Proprietary	65997-15-1	15 (T): 5 (R)	10 (R)	NA
Calcium Carbonate	5-50	1317-65-3	15 (T): 5 (R)	10 (T)	NA
Calcium Oxide	0-30	1305-78-8	5 (T)	2 (T)	3059 mg/kg
Calcium Sulfate	1-10	13397-24-5	15 (T): 5 (R)	10 (T)	NA
Silica Fume (Amorphous Silica)	0-10	69012-64-2	NA	2 (R)	NA
Magnesium Oxide	0-10	1309-48-4	15 (T)	10 (T)	NA
Crystalline Silica	0-10	14808-60-7	[(10)/(SiO ₂ +2)] (R) [(30)/(SiO ₂ +2)] (T)	0.05 (R)	NA

Section 3: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid (Powder).	Evaporation Rate:	NA.
Appearance:	Grayish to Tan Powder	pH (in water):	12-13
Odor:	None	Boiling Point:	>1000°C
Vapor Pressure:	NA.	Freezing Point:	None, Solid.
Vapor Density:	NA.	Viscosity:	None, Solid.
Specific Gravity:	2.2 – 2.5	Solubility in Water:	Slightly (0.1-1.0%)

Section 4: HAZARD IDENTIFICATION

Micro Trench SuperGrout contains a small fraction of Portland cement and/or Portland cement derivatives which are fully disclosed in the following Hazard Identification. These factors are clearly defined beginning with the word “Cement” in the following disclosures. These disclosures are common in ordinary Portland cement and Portland cement mixtures. The remaining balance of ingredients are



MSDS: Micro Trench SuperGrout

inert and pose no hazard requirements other than silica exposures, which are fully disclosed under the cement disclosures.

Emergency Overview: Cement is a solid, grey, odorless powder. It is not combustible or explosive. A single, short term exposure to the dry powder presents little or no hazard. Exposure of sufficient duration to wet cement, or to dry cement on moist areas of the body, can cause serious, potentially irreversible tissue (skin, eye, respiratory tract) damage due to chemical (caustic) burns, including third degree burns.

Potential Health Effects:

Eye Contact: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or wet cement can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye.

Skin Contact: Cement may cause dry skin, discomfort, irritation, severe burns, and dermatitis.

SECTION 5: FIRST AID

Inhalation: Remove to fresh air immediately. If breathing difficulty occurs, seek medical attention and administer oxygen if coughing and other medical symptoms persist.

Skin: Wash skin with soapy water and rinse with clean cool water immediately. Apply moisturizing lotion to dry and irritated skin areas. Seek medical attention in cases of severe irritation and burns.

Eyes: Immediately flush eyes with large quantities of water, flushing for 15 minutes include under the lids to remove grainy particles. Call a physician immediately.

Ingestion: Do NOT induce vomiting. If conscious, have victim drink plenty of water and call a physician immediately.

SECTION 6: HMIS HAZARD RATINGS

Product Rating	Scale
HEALTH: =1	Insignificant = 0
FLAMMABILITY: =0	Slight = 1
PHYSICAL HAZARD: =0	Moderate = 2
REACTIVITY: =0	High = 3
	Extreme = 4
PERSONAL PROTECTIVE EQUIPMENT = E	Chronic Health Hazard = *

(E = SAFETY EYEWEAR, GLOVES, DUST RESPIRATOR)

SECTION 7: FIRE FIGHTING MEASURES

FLASH POINT:	N/A
AUTO IGNITION TEMPERATURE:	N/A
FLAMMABLE LIMITS:	LEL: N/A UEL: N/A
EXTINGUISHING MEDIA:	Product is non-combustible. Carbon dioxide, water, dry-chemical, or chemical foam may be used should smoldering occur.
FIRE FIGHTING PROCEDURES:	No special procedures required.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	No unusual hazards.
HAZARDOUS COMBUSTION PRODUCTS:	None.

SECTION 8: ACCIDENTAL RELEASE PROCEDURES

IN CASE OF ACCIDENTAL RELEASE OR SPILL: This material is not considered hazardous under RCRA (40 CFR Part 261), do not discharge spills or waste into lakes, ponds streams or waterways. Avoid creating dust and use adequate dust collection and ventilation.

SECTION 9: HANDLING AND STORAGE

SPECIAL HANDLING AND STORAGE PROCEDURES: Repair or properly dispose of broken bags. Store bags in a dry place. Moisture will cause the cementitious fraction to react. Avoid creating dust by sweeping release area and disposing of the residue properly.

SECTION 10: EXPOSURE CONTROLS AND PERSONAL PROTECTION

PERSONAL PROTECTION

RESPIRATORY PROTECTION:	Use dust masks that are certified to comply with standard 42 CFR Part 84, series N95. Use of dust masks during blending is recommended.
PROTECTIVE GLOVES:	Wear impervious, alkali resistant gloves, boots and protective clothing to prevent contact with skin. If contact occurs, wash with soapy water, and rinse with clean clear water. Moisturizing lotion can be added to dry affected areas as necessary.



MSDS: Micro Trench SuperGrout

EYE PROTECTION: Wear tight fitting goggles to prevent contact with eyes. Contact lenses should not be worn when handling any products that contain cementitious materials.

OTHER REQUIRED EQUIPMENT: None.

ENGINEERING CONTROLS: Use local exhaust to reduce dust concentrations to levels below the OSHA PEL or the ACGIH TLV. Refer to ACGIH publication "Industrial Ventilation" for design of ventilation systems. It is acceptable to utilize similar publications for design according to the above parameters.

SECTION 11: DISPOSAL PROCEDURES

WASTE DISPOSAL: Product is NOT considered a hazardous waste under RCRA 40 CFR Part 261. Dispose of any wastes according to local, state and federal agency regulations.

SECTION 12: TRANSPORTATION INFORMATION

Product is not considered to be hazardous under the US Department of Transportation (USDOT) Regulations.

SECTION 13: REGULATORY STANDARDS AND INFORMATION

SARA Title III Sections 311 and 312

Portland cement, certain Portland cement derivatives and crystalline silica qualify as hazardous substances with delayed health effects.

CERCLA/Superfund 40 CFR 117 and 302

Not listed.

SARA Title III Section 303

Not subject to reporting requirements under Section 313.

TSCA Inventory

Most components of this product are listed in the TSCA Inventory.

OSHA Hazard Communication Standard

Most of the components of this product are considered hazardous chemicals under this regulation and should be included in an employer's Hazard Communication Program.

Federal Hazardous Substances Act



MSDS: Micro Trench SuperGrout

Portland cement is a hazardous substance subject to statutes promulgated under the subject act.

The information provided herein by SuperGrout Products, LLC is believed to be accurate at the time of preparation or prepared from sources believed to be reliable. Users have the responsibility to comply with all health and safety laws, as well as environmental regulations when using this product, and should determine the suitability of the product for its intended use. Seller makes no warranty, express or implied, concerning the product or the merchantability or fitness thereof for any purpose or concerning the accuracy of information provided by SuperGrout Products, LLC.

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