ConduCrete Pro and Gravel Application

PRODUCT SPECIFICATION RESOURCE

Contains specifications and test reports for ConduCrete Pro manufactured by SAE Inc.

ConduCrete Pro is designed and manufactured to comply with Part 7 of IEC 62561 and NSF / ANSI / CAN 60, and as such is a reliable and safe low permeability conductive compound that produces low resistance when used as part of an earth termination system.

CONDU CRETE PRO

saeinc.com
1 877 234 2502 | 705 733 3307
info@saeinc.com

CONDU CRETE PRO

saeinc.com

1 877 234 2502 | 705 733 3307
info@saeinc.com

SAE

CONDU CRETE PRO

ConduCrete Pro Technical Specifications | CC55-Pro

Physical Properties

Property	Typical Value		Unit	Test Method
Dry Density (Powder)	1400 1.4 87.4		kg/m^3 g/cm^3 lb/ft^3	SAE Inc. Standard 106 (dependent on compaction)
Wet Density (Hardened State)	1730 1.73 108		kg/m^3 g/cm^3 lb/ft^3	SAE Inc. Standard 106
Slurry Density	kg/m^3	g/cm^3	lb/ft^3	
Actual slurry density values will vary depending on water content. Contact SAE Engineering for more information.	1529	1.529	95.4	SAE Inc. Standard 106
Dry Volume (Powder)	m^3		ft^3	
55 lb bag 2200 lb supersack 1 lb bag	0.023 0.764 3.5 x 10^{-4}		0.802 27.027 0.012	SAE Inc. Standard 106
Slurry Volume	m^3		ft^3	
Actual slurry volume values will vary depending on water content. Contact SAE Engineering for more information.	0.025		0.886	SAE Inc. Standard 106
Hygroscopic Property (Water Absorption)	25.4		%	SAE Inc. Standard 110
Water Permeability	2.0 x 10^{-8}		cm/sec	ASTM D5084 (2.6 psi) Mix ratio of 3 US gallons per 55 lb bag
Electrical Corrosion Resistance Copper Steel Galvanized Steel	 95-100 95-100 95-100		%	SAE Inc. Standard 100

Property	Typical Value	Unit	Test Method
Compatibility Copper Steel Galvanized Steel	 Yes Yes Yes		SAE Inc. Standard 100
Environmental Impact	Neutral		Ontario Regulation 558/00 (Leachate Testing) and NSF / ANSI / CAN 60
Carbon Consumption Rate	0.5	kg/ amp·year	SAE Inc. Standard 111
Physical State (Uncured)	Grey Powder		
Physical State (Cured)	Grey Solid		
Odor	None		
Working Time	Approx 30-60	minutes	
Setting Time	24	hours	
Cure Time	28	days	

Compressive Strength Properties

Property	Cure Time			Test Method
Compressive Strength (psi) Actual compressive strength values will vary depending on water content. Contact SAE Engineering for more information.	1 day	8 days	28 days	
	3713	5526	5961	CAN / CSA.A23.2-19
Compressive Strength (MPa) Actual compressive strength values will vary depending on water content. Contact SAE Engineering for more information.	1 day	8 days	28 days	
	25.6	38.1	41.1	CAN / CSA.A23.2-19

Electrical Properties

Property	Typical Value	Unit	Test Method
Resistivity	2.3	Ω·cm	Modified ASTM G187-05
Conductivity	0.44	S/cm	Modified ASTM G187-05

IEC 62561, Part 7

ConduCrete meets IEC 62561, Part 7: Lightning Protection System Components, Requirements for Earthing Enhancing Compounds.

NSF / ANSI / CAN 60

ConduCrete meets NSF / ANSI / CAN 60: Drinking Water Treatment Chemicals - Health Effects.
http://info.nsf.org/Certified/PwsChemicals/Listings.asp?Company=C0169859&

Leachate (TCLP) and NSF / ANSI / CAN 60 Results

Leachate Data (TCLP Procedure) based on Ontario Regulation 558/00. ConduCrete was tested to NSF / ANSI / CAN 60, section 8 for backfill apllications.

Constituent	ConduCrete TCLP Concentration (mg/L)	USEPA Maximum Contaminant Level (mg/L)	ConduCrete NSF 60 Concentration (mg/L)	NSF 60 Acceptance Criteria (mg/L)
Arsenic	BDL	0.010	BDL	0.001
Barium	0.384	2.000	0.000089	0.200
Boron	0.158	2.000*		
Cadmium	BDL	0.005	BDL	0.0005
Lead	BDL	0.015	BDL	0.0005
Mercury	BDL	0.002	BDL	0.0002
Selenium	BDL	0.50	BDL	0.005
Silver	BDL	0.100**	BDL	
Uranium	BDL	0.030	BDL	
Fluoride	BDL	2.000**		
Nitrate (as Nitrogen)	BDL	10.000		
Nitrite (as Nitrogen)	BDL	1.000		
Free Cyanide	BDL	0.200		

BDL means the result is “Below the Detection Level” of the analytical procedure
* No MCL established; value shown is USEPA’s Lifetime Drinking Water Health Advisory
** No MCL established; value shown is USEPA’s Secondary Drinking Water Standard

Soil Analysis Results

Determination of Anions in Soil Procedure was based on SW846-9056A and Determination of Free Cyanide in Soil was based on EPA OIA-1677.

Constituent	ConduCrete Pro Concentration (µg/g)
Fluoride	BDL
Nitrate (as Nitrogen)	BDL
Nitrite (as Nitrogen)	BDL
Free Cyanide	BDL

BDL means the result is “Below the Detection Level” of the analytical procedure

The properties in this technical data sheet are typical values, not guaranteed specification, and are subject to change.

Published Date: December 2023

Report Data Reviewed and APPROVED by

Rylan Boyd, P.Eng. | Engineering Manager | SAE Inc

CONDU CRETE PRO

ConduCrete Pro and ¾" Clear Gravel Surround for Galvanized Steel Utility Poles | Field Resistance Trial

1. INTRODUCTION

This study was conducted to quantify the improvement of the resistance to ground of a galvanized steel utility pole when a ConduCrete slurry is poured in the gravel backfill compared to the traditional method of gravel backfill only. For the purposes of the trial a galvanized steel fence post was substituted for a galvanized steel utility pole.

2. PROCEDURE

Two 24" diameter holes were augured into the earth four feet deep. A 4.5" diameter, 6-foot-long galvanized steel fence post was placed into the center of each augured hole. Each hole was backfilled with ¾" clear gravel, approximately twenty-five 55 lb bags of gravel in each hole.

A Hioki FT 6380 Ground Resistance Tester was used to measure the resistance to ground of each galvanized steel fence post backfilled with gravel. A cement mixer was then used to mix two different slurries of ConduCrete Pro, one for each hole. The first slurry was ConduCrete Pro with a water ratio of 3 US gallons of water per 55 lb bag of ConduCrete Pro. The slurry was poured into the first hole (galvanized fence post A) until the material no longer flowed through the gravel, five 55-lb bags of ConduCrete Pro. The second slurry was ConduCrete Pro with a water ratio of 4 US gallons of water per 55 lb bag of ConduCrete Pro. The slurry was poured into the second hole (galvanized fence post B) until the material no longer flowed through the gravel, eight 55 lb bags of ConduCrete Pro.

The Hioki FT 6380 Ground Resistance Tester was again used to measure the resistance to ground of each of the galvanized steel fence posts with ConduCrete Pro slurry poured in the hole to fill the gaps between the gravel. The resistance to ground of each galvanized steel fence post was measured a third time with the Hioki FT 6380 Ground Resistance Tester after the ConduCrete Pro slurries were allowed to cure for 12 weeks.

3. RESULTS AND ANALYSIS

Table 1: Resistance to Ground of Bare Gravel vs ConduCrete Pro and Gravel

	November 7, 2023 Resistance (ohms)	January 31, 2023 Resistance (ohms)
Galvanized fence post A - bare gravel	OL	n/a
Galvanized fence post A – ConduCrete Pro slurry with 3 US gallons of water per bag	120	41.35
Galvanized fence post B – bare gravel	OL	n/a
Galvanized fence post B – ConduCrete Pro slurry with 4 US gallons of water per bag	119	21.35

OL stands for overload on the tester and means that the Hioki FT 6380 Ground Resistance Tester limit of 1500 ohms is too low to measure the resistance to ground of the galvanized steel fence posts in bare ¾" clear gravel. Therefore, the resistance of each of the galvanized steel fence posts in bare gravel was greater than 1500 ohms. In comparison the resistance to ground of the galvanized steel fence posts once each of the ConduCrete Pro slurries were added decreased to approximately 120 ohms and once allowed to cure for 12 weeks the resistance to ground of the ConduCrete Pro and gravel surround for the galvanized steel fence posts dropped even further to 41.35 ohms for the 3 US gallons of water per bag ConduCrete Pro slurry and 21.35 ohms for the 4 US gallons of water per bag ConduCrete Pro slurry.

4. CONCLUSIONS

Adding a ConduCrete Pro slurry to the gravel backfill used to support galvanized steel utility poles will greatly improve the resistance to ground of the galvanized steel utility pole itself and any other grounding placed in the gravel backfill, such as ground rods. The ConduCrete Pro slurry can be added to the gravel backfill at any time after installation of the galvanized steel utility pole, allowing utilities to continue to follow their current installation procedures. A water ratio of 4 US gallons of water per 55 lb bag of ConduCrete will provide a slightly better resistance to ground than the 3 US gallons water ratio since the mixture is thinner and flows though the ¾" clear gravel more easily than the 3 US gallon water ratio, therefore filling more of the voids between the gravel with ConduCrete, knitting with the soil, and creating more conductive surface area.

Published Date: July 2023

Report Data Reviewed and APPROVED by

Rylan Boyd, P.Eng. | Engineering Manager | SAE Inc

ConduCrete Pro and ¾” Clear Gravel Compressive Strength Analysis

1. INTRODUCTION

This study was conducted in order to quantify the compressive strength of ConduCrete Pro cured in ¾” clear gravel when mixed with two different water ratios.

2. PROCEDURE

This section summarizes the method of preparation of cylinder samples of ConduCrete Pro cured in ¾” clear gravel sent for compressive strength testing, used for all the samples sent to Terraprobe Inc. in Barrie, Ontario.

Preparation

The preparation will yield 4 samples or two sets (2 cylinders/set) for testing. Two different ratios of water were used: 3.0 US gallons per 55 lb bag of ConduCrete Pro and 4.0 US gallons per 55 lb bag of ConduCrete Pro. Half a bag of dry ConduCrete Pro (12.5 kg or 27.5 lb.) was mixed with 1.5 and 2.0 US gallons of water respectively.

For testing the compressive strength of ConduCrete Pro cured in ¾” clear gravel, cylindrical test containers of size 4 x 8-in. (100 x 200-mm) were filled with ¾” clear gravel. The ConduCrete Pro slurries were poured into the cylinders with gravel and vibrated to remove air bubbles. The specimens were stored until the ConduCrete Pro hardened in accordance with the requirements of ASTM C31, Standard Practice for Making and Curing Concrete Test Specimens in the Field. A strength test result is always the average of at least two specimens tested at the same age.

3. RESULTS AND ANALYSIS

The ConduCrete Pro and ¾” clear gravel samples were tested in accordance with current standard CAN/CSA A23.2-14.

Table 1. Compressive Strength Results (psi)

Sample	Compressive Strength (psi)
	28 Days
ConduCrete Pro in ¾" Clear Gravel, water ratio of 3.0 US gallons per 55 lb bag of ConduCrete Pro	1298.09
ConduCrete Pro in ¾" Clear Gravel, water ratio of 4.0 US gallons per 55 lb bag of ConduCrete Pro	804.96

Table 2. Compressive Strength Results (MPa)

Sample	Compressive Strength (MPa)
	28 Days
ConduCrete Pro in ¾" Clear Gravel, water ratio of 3.0 US gallons per 55 lb bag of ConduCrete Pro	8.95
ConduCrete Pro in ¾" Clear Gravel, water ratio of 4.0 US gallons per 55 lb bag of ConduCrete Pro	5.55

Published Date: July 2023

Report Data Reviewed and APPROVED by

Rylan Boyd, P.Eng. | Engineering Manager | SAE Inc

CONDU CRETE PRO

ConduCrete Pro and ¾" Clear Gravel Permeability Testing

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 – Constant Volume

Sample Name	ConduCrete Pro (3 US gallon per 55 lb bag water ratio) in ¾" Clear Gravel
Type	Tube
Permeant Fluid	De-aired Distilled water
Orientation	Vertical
Sample Preparation	Extruded from cylinder mold, cut, and placed into permeameter at as-received density and moisture content
Assumed Specific Gravity	2.70

Parameter	Initial	Final
Height, in	3.50	3.50
Diameter, in	4.00	4.00
Area, in^2	12.57	12.57
Volume, in^3	43.98	43.98
Mass, g	1563.6	1584
Bulk Density, pcf	135	136.7
Moisture Content, %	13.2	14.8
Dry Density, pcf	119.2	119.2
Degree of Saturation, %	86	96

B Coefficient Determination

Cell Pressure, psi:	90.02	Increased Cell Pressure, psi:	94.99	Cell Pressure Increment, psi:	4.97
Sample Pressure, psi:	87.40	Corresponding Sample Pressure, psi:	91.21	Sample Pressure Increment, psi:	3.81
					0.76

*B value did not increase with increase in pressure. Final degree of saturation >95%.

saeinc.com
1 877 234 2502 | 705 733 3307
info@saeinc.com

SAE

Flow Data

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
Jan 20 2023	1	90.0	87.4	8.0	7.6	0.4	32	11.5	4.4E-07	19.5	1.013	4.5E-07
Jan 20 2023	2	90.0	87.4	8.0	7.3	0.4	30	11.5	4.4E-07	19.5	1.013	4.5E-07
Jan 20 2023	3	90.0	87.4	8.0	7.6	0.4	31	11.5	4.4E-07	19.5	1.013	4.5E-07
Jan 20 2023	4	90.0	87.4	8.0	7.6	0.4	32	11.5	4.0E-07	19.5	1.013	4.0E-07

PERMEABILITY AT 20º C: 4.3 x 10^{-7} cm/sec (@ 2.6 psi effective stress)

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 – Constant Volume

Sample Name	ConduCrete Pro (4 US gallon per 55 lb bag water ratio) in ¾” Clear Gravel
Type	Tube
Permeant Fluid	De-aired Distilled water
Orientation	Vertical
Sample Preparation	Extruded from cylinder mold, cut, and placed into permeameter at as-received density and moisture content
Assumed Specific Gravity	2.70

Parameter	Initial	Final
Height, in	3.43	3.43
Diameter, in	4.00	4.00
Area, in^2	12.57	12.57

Parameter	Initial	Final
Volume, in^3	43.0	43.0
Mass, g	1540.4	1557.8
Bulk Density, pcf	136.0	137.6
Moisture Content, %	12.85	14.15
Dry Density, pcf	120.6	120.6
Degree of Saturation, %	88	96

B Coefficient Determination

Cell Pressure, psi:	90	Increased Cell Pressure, psi:	95.03	Cell Pressure Increment, psi:	5.03
Sample Pressure, psi:	87.47	Corresponding Sample Pressure, psi:	91.78	Sample Pressure Increment, psi:	4.31
					0.86

*B value did not increase with increase in pressure. Final degree of saturation >95%.

Flow Data

Date	Time, sec	Pressure, psi			Gradient	Flow Volume, cc				Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Inlet	Outlet	8.0	In	Out	Δ In	Δ Out			
Jan 21 2023	-	90.0	87.9	86.9	8.0	7.00	14.00	-	-	-	-	-
Jan 21 2023	30	90.0	87.9	86.9	8.0	7.50	13.50	0.50	0.50	19.5	1.013	2.6E-05
Jan 21 2023	-	90.0	87.9	86.9	8.0	7.00	14.00	-	-	-	-	-
Jan 21 2023	30	90.0	87.9	86.9	8.0	7.50	13.50	0.50	0.50	19.5	1.013	2.6E-05
Jan 21 2023	-	90.0	87.9	86.9	8.0	7.00	14.00	-	-	-	-	-
Jan 21 2023	30	90.0	87.9	86.9	8.0	7.50	13.50	0.50	0.50	19.5	1.013	2.6E-05
Jan 21 2023	-	90.0	87.9	86.9	8.0	7.00	14.00	-	-	-	-	-
Jan 21 2023	30	90.0	87.9	86.9	8.0	7.50	13.50	0.50	0.50	19.5	1.013	2.6E-05

PERMEABILITY AT 20° C: 2.5 x 10^{-5} cm/sec (@ 2.6 psi effective stress)

These results are the summary of results generated from testing conducted by GeoTesting Express located in Acton, MA from January 19, 2023 to January 23, 2023.

Published Date: July 2023

Report Data Reviewed and APPROVED by

Rylan Boyd, P.Eng. | Engineering Manager | SAE Inc

Resistance of Galvanized Steel Encased in ConduCrete Pro and ¾" Clear Gravel Surround to Electrolytic Corrosion

1. INTRODUCTION

This study was conducted in order to quantify the effect that ConduCrete Pro and ¾" clear gravel encasement has on the prevention of galvanized steel corrosion. The corrosion of galvanized steel in direct contact with ¾" clear gravel was compared to the corrosion of galvanized steel encased in ConduCrete Pro and ¾" clear gravel then buried in wet soil. Some utilities use galvanized steel utility poles and in some cases these utility poles do not have an insulating corrosion coating applied and are installed with gravel surrounding the pole to provide structural support to the utility pole.

2. PROCEDURE

Two rectangular pieces of galvanized steel (approximately 1 ¾" x ¾") were cut using an angle grinder. A ¼" hole was drilled into one end of each sample. One coat of Rustoleum Cold Galvanized Compound was applied to the edges of both samples. These samples had been Hot Dip Galvanized according to ASTM A123 at Supreme Galvanizing in Burlington, so Rustoleum Cold Galvanizing Compound was only applied to the edges of the samples that had been cut with the angle grinder. The samples were then weighed using an electronic balance to determine their pre-test weights. Lengths of Dual Insulated Wire (HMWPE and Kynar) were attached to both samples by first crimping a Thomas & Betts Colour-Keyed Copper Compression Connector (Red Die Code 21) for #8 AWG stranded wire onto the wire and then bolting the connectors to the samples using a ¼" zinc plated bolt and nut. Galvanized steel #1 was to be surrounded by ¾" clear gravel in a hole dug in the soil while Galvanized steel #2 was encased in a 4" x 8" cylinder that had been filled with ¾" clear gravel and had a ConduCrete Pro slurry made with a water ratio of 3 US gallons of water per 55 lb bag of ConduCrete Pro poured into the container to fill the gaps between the gravel. The ConduCrete Pro and gravel sample was allowed to cure for 4 weeks prior to the start of the experiment. Galvanized steel #1 was placed in a pail in the center of a 4" x 8" hole dug in black earth soil. The hole was filled with ¾" clear gravel and then covered with soil. Galvanized steel #2 encased in ConduCrete Pro and ¾" clear gravel was placed in a pail and surrounded by black earth soil. A length of steel rebar was placed in each container approximately 6 inches from each sample. Two liters of water was added to each container. The samples were connected in a series circuit to an individual channel of a 30 V power supply, to ensure an equal current load.

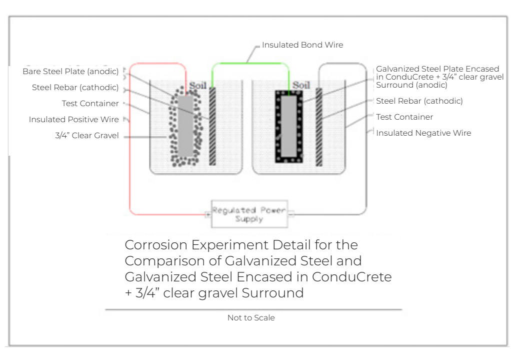
Figure 1: Galvanized Steel Samples prior to the Experiment, Galvanized steel #1 (left) and Galvanized steel #2 (right)

Figure 2: Galvanized steel #2 encased in a surround of ConduCrete Pro and ¾” clear gravel prior to the experiment

Figure 3: Galvanized steel #1 surrounded by ¾” clear gravel prior to the experiment

The power source was set to provide 3 mA throughout the duration of the test. Schematics of the layout can be seen below in Figure 4. Water was added to each pail at least once a week to ensure that the soil remained moist. Resistance readings were taken throughout the experiment. Both samples were removed from the soil after six months, cleaned, and weighed using an electronic balance.

Figure 4: Schematics of the circuit configuration



saeinc.com
1 877 234 2502 | 705 733 3307
info@saeinc.com

The resistance data was recorded regularly throughout the experiment and can be found in Appendix A.

After six months the experiment was completed and the samples were removed from the soil for analysis. The samples were cleaned and weighed using an electronic balance. As shown in Table 1 and Figure 5 Galvanized steel #1 which was surrounded by ¾" clear gravel experienced significant corrosion during the course of the experiment and had lost 18.36% of its mass in six months.

As shown in Table 1 and Figures 6 and 7, Galvanized steel #2 which was encased in ConduCrete Pro and ¾" clear gravel did experience some minor corrosion and a small loss in mass and the ConduCrete Pro surround did crack in several places. However, when a ConduCrete Pro slurry was added to the ¾" clear gravel around the galvanized steel the corrosion rate of the galvanized steel decreased by 3.71x when compared to galvanized steel surrounded by plain ¾" clear gravel. This demonstrates that while pouring the ConduCrete Pro into a hole already containing gravel is not as effective at preventing corrosion as a solid ConduCrete Pro surround it is still a significant improvement over bare gravel. The effectiveness of a solid ConduCrete Pro surround at preventing corrosion was demonstrated in the report titled 'Resistance of Bare and Galvanized Steel Encased in ConduCrete Pro to Electrolytic Corrosion'.

Table 1: Summary of Mass Change for Each Sample

Sample	Initial Mass (g)	Final Mass (g)	Mass Difference (g)	Percentage Loss (%)
Galvanized Steel #1 (¾" clear gravel)	69.49	56.73	12.76	18.36
Galvanized Steel #2 (ConduCrete Pro + ¾" clear gravel)	71.67	68.12	3.55	4.95

Figure 5: Galvanized steel #1 after the Experiment

Figure 6: Galvanized steel #2 encased in ConduCrete Pro and ¾" clear gravel after the Experiment

Figure 7: Galvanized steel #2 after the Experiment

4. CONCLUSIONS

This experiment compared the corrosion rate of galvanized steel in surrounded by ¾" clear gravel at low current to the corrosion rate of galvanized steel encased in ConduCrete Pro and ¾" clear gravel in damp salty soil at low current. The test was conducted to simulate the corrosion that galvanized steel utility poles not coated with an insulating corrosion coating and backfilled with gravel will experience in situ and evaluate the effect that pouring a ConduCrete Pro slurry into the gravel backfill would have on the corrosion rate of the galvanized steel utility pole.

The galvanized steel sample surrounded by ¾" clear gravel experienced a significant loss in mass at the completion of the six-month test. The sample had visibly corroded, especially at the bottom of the sample, and had lost 18.36% of its original mass. In comparison the galvanized steel sample encased in ConduCrete Pro and ¾" clear gravel had only minor visible corrosion and had lost only 4.95% of its mass at the end of the six-month test. Therefore, this experiment demonstrated that adding a ConduCrete Pro slurry to the gravel backfill around galvanized steel utility poles will effectively reduce the rate of corrosion of the utility pole by over 3 times.

APPENDIX A

Table 2: Resistance Data for the Experiment

Date	Voltage (V)	Current (A)	Circuit Resistance (Ω)
23-Jun-22	9.96	0.003	3320.00
24-Jun-22	22.46	0.003	7486.67
27-Jun-22	11.70	0.003	3900.00
28-Jun-22	10.61	0.003	3536.67
29-Jun-22	8.75	0.003	2916.67
30-Jun-22	8.76	0.003	2920.00
11-Jul-22	6.17	0.003	2056.67
12-Jul-22	5.17	0.003	1723.33
13-Jul-22	5.32	0.003	1773.33
14-Jul-22	5.78	0.003	1926.67
18-Jul-22	6.11	0.003	2036.67
19-Jul-22	5.35	0.003	1783.33
20-Jul-22	5.04	0.003	1680.00
21-Jul-22	5.78	0.003	1926.67
22-Jul-22	6.03	0.003	2010.00
25-Jul-22	7.26	0.003	2420.00
26-Jul-22	7.07	0.003	2356.67
27-Jul-22	7.16	0.003	2386.67
28-Jul-22	6.82	0.003	2273.33
29-Jul-22	6.99	0.003	2330.00
02-Aug-22	6.75	0.003	2250.00
04-Aug-22	3.41	0.003	1136.67
05-Aug-22	3.47	0.003	1156.67
08-Aug-22	3.26	0.003	1086.67
09-Aug-22	2.86	0.003	953.33
10-Aug-22	3.19	0.003	1063.33
11-Aug-22	3.17	0.003	1056.67
12-Aug-22	3.55	0.003	1183.33
15-Aug-22	3.40	0.003	1133.33

Date	Voltage (V)	Current (A)	Circuit Resistance (Ω)
16-Aug-22	3.34	0.003	1113.33
17-Aug-22	3.53	0.003	1176.67
18-Aug-22	3.73	0.003	1243.33
19-Aug-22	4.10	0.003	1366.67
22-Aug-22	3.98	0.003	1326.67
23-Aug-22	3.87	0.003	1290.00
24-Aug-22	3.80	0.003	1266.67
25-Aug-22	4.18	0.003	1393.33
26-Aug-22	4.15	0.003	1383.33
19-Sep-22	3.61	0.003	1203.33
20-Sep-22	3.82	0.003	1273.33
21-Sep-22	3.78	0.003	1260.00
22-Sep-22	4.02	0.003	1340.00
23-Sep-22	4.66	0.003	1553.33
26-Sep-22	3.85	0.003	1283.33
27-Sep-22	4.37	0.003	1456.67
28-Sep-22	4.56	0.003	1520.00
29-Sep-22	4.84	0.003	1613.33
30-Sep-22	5.03	0.003	1676.67
03-Oct-22	4.94	0.003	1646.67
04-Oct-22	4.74	0.003	1580.00
05-Oct-22	4.77	0.003	1590.00
06-Oct-22	4.44	0.003	1480.00
07-Oct-22	4.54	0.003	1513.33
11-Oct-22	4.58	0.003	1526.67
12-Oct-22	4.29	0.003	1430.00
13-Oct-22	4.16	0.003	1386.67
14-Oct-22	4.23	0.003	1410.00
17-Oct-22	3.98	0.003	1326.67
18-Oct-22	4.21	0.003	1403.33
19-Oct-22	4.18	0.003	1393.33
20-Oct-22	4.20	0.003	1400.00

Date	Voltage (V)	Current (A)	Circuit Resistance (Ω)
21-Oct-22	4.18	0.003	1393.33
24-Oct-22	3.83	0.003	1276.67
25-Oct-22	3.71	0.003	1236.67
26-Oct-22	3.66	0.003	1220.00
27-Oct-22	3.81	0.003	1270.00
28-Oct-22	3.85	0.003	1283.33
31-Oct-22	3.71	0.003	1236.67
01-Nov-22	3.60	0.003	1200.00
02-Nov-22	3.62	0.003	1206.67
03-Nov-22	3.62	0.003	1206.67
04-Nov-22	3.55	0.003	1183.33
07-Nov-22	3.56	0.003	1186.67
08-Nov-22	3.69	0.003	1230.00
10-Nov-22	3.65	0.003	1216.67
11-Nov-22	3.47	0.003	1156.67
14-Nov-22	3.91	0.003	1303.33
15-Nov-22	3.85	0.003	1283.33
16-Nov-22	3.72	0.003	1240.00
17-Nov-22	3.74	0.003	1246.67
18-Nov-22	3.74	0.003	1246.67
21-Nov-22	3.76	0.003	1253.33
22-Nov-22	3.75	0.003	1250.00
23-Nov-22	3.52	0.003	1173.33
24-Nov-22	3.54	0.003	1180.00
25-Nov-22	3.55	0.003	1183.33
28-Nov-22	3.67	0.003	1223.33
29-Nov-22	3.57	0.003	1190.00
01-Dec-22	3.91	0.003	1303.33
02-Dec-22	3.92	0.003	1306.67
05-Dec-22	3.97	0.003	1323.33
06-Dec-22	3.84	0.003	1280.00
07-Dec-22	3.69	0.003	1230.00

CONDU CRETE PRO

Date	Voltage (V)	Current (A)	Circuit Resistance (Ω)
08-Dec-22	3.58	0.003	1193.33
09-Dec-22	3.80	0.003	1266.67
12-Dec-22	3.82	0.003	1273.33
13-Dec-22	3.92	0.003	1306.67
14-Dec-22	3.84	0.003	1280.00
15-Dec-22	3.86	0.003	1286.67
16-Dec-22	3.75	0.003	1250.00
19-Dec-22	3.70	0.003	1233.33
20-Dec-22	3.72	0.003	1240.00
21-Dec-22	3.69	0.003	1230.00
22-Dec-22	3.72	0.003	1240.00

These results are the summary of results generated from testing conducted by SAE Inc. at their Barrie, ON location. Testing was performed by Caitlin Hughes, R&D Coordinator, from June 23, 2022 to December 22, 2022.

Published Date: July 2023

Report Data Reviewed and APPROVED by

Rylan Boyd, P.Eng. | Engineering Manager | SAE Inc

SAFETY DATA SHEET

SECTION 1 | PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Identifier	ConduCrete
Synonyms	ConduCrete, ConduCrete DM100, ConduCrete CP, ConduCrete Pro, ConduPlug
Product Description	Grey Conductive Carbonaceous Concrete
Recommended Use	Grounding and Cathodic Protection Systems

COMPANY IDENTIFICATION

Supplier

SAE Inc
691 Bayview Drive
Barrie, Ontario, Canada L4N 9A5
+1 705 733 3307
www.saeinc.com

SECTION 2 | HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE MIXTURE

Skin Irritation Cat. 2; H315
Eye Damage Cat. 1; H318
Specific Target Organ Toxicity, Single Exposure, Cat. 3; H335
Carcinogenicity Cat. 1; H350 (inhalation)

NSF
Certified to NSF/ANSI/CAN 60

LABELLING

Symbols

Signal Word

Danger

Hazard Statements

H315: Causes skin irritation
H318: Causes serious eye damage
H335: May cause respiratory irritation
H350: May cause cancer by chronic inhalation

Precautionary Statements

Prevention

P260: Do not breathe dusts
P264: Wash hands thoroughly after handling
P270: Do not eat, drink, or smoke when using this product
P271: Use only outdoors or in a well-ventilated area

Response

P302 + P352:	IF ON SKIN: Wash with plenty of water.
P321:	Specific treatment: Caustic burns must be treated promptly by a doctor.
P332 + P313:	If skin irritation occurs: Get medical advice / attention.
P362 + P364:	Take off contaminated clothing and wash it before reuse.
P305 + P351 + P338:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340:	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P402:	Store in a dry place.

Other Hazards

Dusts from this product, when combined with water or sweat, produce a corrosive alkaline solution.

SECTION 3 | COMPOSITION / INFORMATION ON INGREDIENTS

3.1 MIXTURE

Chemical Name	CAS No.	Wt. %	GHS Classification
Calcined Petroleum Coke	64743-05-1	50-90	Not classified
Portland Cement	65997-15-1	10-50	Skin Irritation 2: H315 / Eye damage 1: H318 / STOT SE 3: H335
Calcium Oxide	1305-78-8	0.03-1.5	Skin irritation 2: H315 / Eye damage 1: H318
Crystalline Silica	14808-60-7	0.01-0.75	Carc. 1: H350

SECTION 4 | FIRST AID MEASURES

4.1 PRECAUTIONS

First aid providers should avoid direct contact with this chemical. Wear chemical protective gloves, if necessary. Take precautions to ensure your own safety before attempting rescue, (e.g. wear appropriate protective equipment).

4.2 EYE

Do not rub eyes. Immediately flush eyes with running water for several minutes while forcing eyelids open during flushing. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists or if concerned seek medical attention. Take care not to rinse contaminated water into the unaffected eye or onto face.

4.3 SKIN

Wash affected areas with non-abrasive pH neutral soap and lukewarm running water and remove contaminated clothing. Launder contaminated clothing before reuse. Seek medical attention for rashes, burns, irritation, dermatitis, and prolonged unprotected exposures to wet cement, cement mixtures, or liquids from wet cement. Burns should be treated promptly by a doctor.

4.4 INHALATION

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Seek medical help if coughing or other symptoms persist. If large amounts were inhaled immediate medical attention is required. Call a poison control center or doctor. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

4.5 INGESTION

Rinse mouth. Do NOT induce vomiting. Get medical attention if symptoms occur. If large amounts were ingested obtain medical attention immediately or transport victim to an emergency treatment center.

4.6 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

4.6.1 Inhalation

High concentration of airborne dusts are severely irritating to the upper respiratory tract with symptoms such as coughing, sneezing and shortness of breath. Long-term inhalation exposure to dusts containing respirable size crystalline silica can cause silicosis and lung cancer.

4.6.2 Eye Contact

Severely irritating in contact with eyes. Causes eye damage which may be permanent and may cause blindness. Solid particles react with moisture in the eye to form clumps of moist compound which may be difficult to remove.

4.6.3 Skin Contact

Dusts from this product, when combined with water or sweat, produce an irritating alkaline solution and burning of the skin. Symptoms include pain, burns, skin dryness, cracking and eczema.

4.6.4 Ingestion

Severely irritating to the mouth, throat, and gastro-intestinal system if swallowed. Symptoms may include severe pain and burning of the mouth, throat, esophagus and gastrointestinal tract with nausea, vomiting and diarrhea. If aspiration into the lungs occurs during vomiting, severe lung damage may result.

4.7 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Corrosive material; get immediate medical advice / attention if inhaled, if swallowed or if in eyes.

SECTION 5 | FIRE FIGHTING MEASURES

5.1 FLASH POINT

Carbonic matter: May burn if exposed to temperature above 1290 °F (700 °C)

5.2 SUITABLE EXTINGUISHING MEDIA

Use extinguishing media appropriate to the surrounding fire conditions. Water Fog, Dry Chemical, Foam, or Carbon Dioxide.

5.3 UNSUITABLE EXTINGUISHING MEDIA

Do not use water jet as an extinguisher, as this will spread the fire or cause scattering of the corrosive solution.

5.4 SPECIAL HAZARDS

Products of combustion may contain carbon monoxide, carbon dioxide and sulfur oxides. Bulk powder of this product may heat spontaneously when damp with water. Corrosive: reacts with water releasing heat and forming an alkaline solution. Firefighters must wear full protective equipment including self-contained breathing apparatus with chemical protection clothing when exposed to decomposition products.

5.5 EXPLOSION DATA

Powders and dusts may cause an explosion hazard under certain conditions: these conditions are unlikely during normal use.

SECTION 6 | ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES
Wear adequate personal protective equipment, including an appropriate respirator as indicated in Section 8 if there is a risk of exposure to dust / fume at levels exceeding the exposure limits. Isolate spill area, preventing entry by unauthorized persons. Do not touch spilled material. Do not breathe dusts.

6.2 ENVIRONMENTAL PRECAUTIONS
Avoid waste releases to the environment and prevent material from entering sewers, natural waterways or storm water management systems.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP
Move containers from spill area. Avoid dust generation and prevent wind dispersal. Material can be picked up by sweeping, shoveling, mopping or vacuuming. Vacuum dust with equipment fitted with a HEPA filter and place in a closed labelled waste container.

6.4 REFERENCE TO OTHER SECTIONS
See Section 8 for information on selection of personal protective equipment. See Section 13 for information on disposal of spilled product and contaminated absorbents.

SECTION 7 | HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING
Before handling, it is important that engineering controls are operating, protective equipment requirements and personal hygiene measures are being followed. People working with this material should be trained regarding its hazards and its safe use. Do not breathe dusts. Wash hands and exposed skin thoroughly after handling. Use only outdoors or in a well- ventilated area. Contaminated work clothing should not be allowed out of the workplace. Prevent eye contact. Wear eye protection. Do not use this product in a confined space without adequate local exhaust ventilation.

7.2 CONDITIONS FOR SAFE STORAGE
Store in a dry, well-ventilated area, away from incompatible materials, such as strong oxidizing agents; other strong oxidants. Keep containers closed. Protect from moisture / humidity and from damage or water. Do not store near food and beverages or smoking materials.

ConduCrete must be stored in unopened bags clear of the ground in cool, dry conditions.
Storage should be such that no dampness or moisture is allowed to reach ConduCrete either from the ground, walls or from the environment. This becomes particularly important during the humid season and in coastal regions when atmospheric air conditions higher amount of moisture in it.
Do not store ConduCrete in a building where walls, roof and floor are not completely weatherproof.
Do not stack against the wall. Do not store ConduCrete bags on the floor; place on a wooden pallet or plastic sheet.

Plastic is effective as a barrier to keep the ConduCrete from absorbing moisture.
Do not keep bags on the ground for temporary storage at work site. Pile on raised by platform e.g. skid and cover with plastic. If no skid is available place ConduCrete on plastic sheet. ConduCrete bags can be torn or otherwise damaged by careless or rough handling, by sharp edges, by nails sticking out of the wooden pallets, by dropping from excessive heights, by the forks of forklift trucks, etc. ConduCrete bags being transported on trucks should also be protected from rain, drizzle, sea spray, and splashes from puddles and potholes, etc.
Shelf life is limited by direct contact with moisture and/or elevated levels of humidity.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS
Occupational Exposure Limits

Ingredient	ACGIH TLV (8-hr. TWA)	U.S. OSHA PEL (8-hr. TWA)	Ontario (Canada) TWA
Calcined Petroleum Coke (Particles not otherwise specified)*	10 mg/m³ (total dust) 3 mg/m³ (respirable)	15 mg/m³ (total dust) 5 mg/m³ (respirable)	10 mg/m³ (total dust) 3 mg/m³ (respirable)
Portland Cement (respirable)*	1 mg/m³	15 mg/m³ (total dust) 5 mg/m³ (respirable)	1 mg/m³
Calcium Oxide	2 mg/m³	5 mg/m³	2 mg/m³
Crystalline Silica (Quartz)	0.025 mg/m³ (respirable)	0.05 mg/m³ quartz (respirable)	0.1 mg/m³ (respirable) Designated Substance

* value for particulate matter containing no asbestos and less than 1% crystalline silica

8.2 OTHER EXPOSURE LIMITS

Ingredient	NIOSH REL	NIOSH IDLH (Immediately Dangerous to Life or Health)
Portland Cement	10 mg/m³	5000 mg/m³
Calcium Oxide	2 mg/m³	25 mg/m³

8.3 EXPOSURE CONTROLS

8.3.1 Engineering Controls

Dust should be controlled at point of operation. General mechanical and local exhaust ventilation to maintain airborne concentrations below occupational exposure limits. Handle in accordance with good industrial hygiene and safety practice. Ensure regular cleaning of equipment, work area and clothing. If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection. Have equipment available for use in emergencies such as spills or fire.

8.3.2 Personal Protection

Workers must comply with the Personal Protective Equipment requirements of the workplace in which this product is handled.

8.3.3 Eye / Face Protection

Wear approved safety glasses with side-shields or chemical safety goggles. Wear a face-shield or full-face respirator when needed to prevent exposure to airborne dusts. The use of contact lenses is not recommended.

8.3.4 Skin Protection

Wear chemical protective gloves, suit, and boots to prevent skin exposure. Evaluate resistance under conditions of use and maintain protective clothing carefully. Contact safety supplier for specifications.

8.3.5 Respiratory Protection

Approved respiratory protective equipment (RPE) is required if other controls are unable to maintain occupational exposure below the legislated limits. An approved respirator, NIOSH N95 rating or higher, must be available in case of accidental releases. Proper respiratory selection should be determined by adequately trained personnel and based on the contaminant(s), the degree of potential exposure and published respirator protection factors.

A respiratory protection program that meets the regulatory requirement, such as OSHA's 29 CFR 1910.134, ANSI Z88.2 or Canadian Standards Association (CSA) Standard Z94.4, must be followed whenever workplace conditions warrant a respirator's use.

8.3.6 Other Protection
Have a safety shower and eyewash station readily available in the work area.
Every attempt should be made to avoid skin and eye contact. Do not get powder inside boots, shoes, or gloves. Do not allow wet, saturated clothing to remain against the skin. Promptly remove clothing and shoes that are dusty or wet. Wash clothing and shoes thoroughly before reuse.
Do not eat, drink, or smoke where this material is handled, stored and processed. Wash hands thoroughly before eating, drinking, and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

8.3.7 Environmental Exposure Controls
Emissions from ventilation or work process equipment should be monitored to ensure they comply with the requirements of environmental protection legislation.

SECTION 9 | PHYSICAL / CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid, grey powder
Odor	Odorless
Odor Threshold	Not applicable
pH	12-13 (slurry)
Melting Point / Freezing Point	Not applicable
Initial Boiling Point and Boiling Range	Not applicable
Flash Point	Not applicable
Flammability	Not flammable or combustible
Auto-ignition temperature	>1292 °F, >700 °C
Upper / Lower Flammability or Explosive Limits	Not applicable
Explosive Properties	Not applicable
Oxidizing Properties	Not applicable
Sensitivity to Mechanical Impact	Not applicable
Sensitivity to Static Discharge	Not applicable
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Density	64 lbs/ft^3, 1021 kg/m^3 (powder) (dependent on compaction)
Solubility	Slightly soluble in water
Partition Coefficient (n-octanol / water)	Not applicable
Decomposition Temperature	>2400 ° F, >1316 °C
Viscosity	Not applicable

SECTION 10 | STABILITY AND REACTIVITY

10.1 REACTIVITY
Reacts slowly with water forming hydrated compounds, releasing heat and forming an alkaline solution. Once cured ConduCrete has a neutral pH.

10.2 CHEMICAL STABILITY
This product is stable in a closed container under normal conditions of storage and use.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS
Aqueous solutions are alkaline and may corrode aluminum.

10.4 CONDITIONS TO AVOID
Avoid unintentional contact with water / moisture and with strong acids, strong oxidizing agents and other incompatible materials. Avoid generation of dust. Avoid extreme heat and open flames. May burn if exposed to temperature above 1290 °F (700 °C).

10.5 INCOMPATIBLE MATERIALS

Oxidants	Incompatible with strong oxidizing agents
Strong Acids	Incompatible with strong acids; may react vigorously
Water	Reaction generates heat
Aluminum	Calcium oxide is corrosive to aluminum metal
	May react with Ammonium salts

10.6 HAZARDOUS DECOMPOSITION PRODUCTS
In contact with water and moisture, generates corrosive calcium hydroxide.

SECTION 11 | TOXICOLOGICAL INFORMATION

11.1 LIKELY ROUTES OF EXPOSURE
Eye and skin contact. Inhalation of dust.

11.2 ACUTE TOXICITY DATA
Data not available for the mixture.

11.2.1 Skin Corrosion / Irritation
Based on information for Portland cement and calcium oxide: Causes skin irritation. May cause caustic burns when in prolonged contact with the skin. Irritating or corrosive to mouth, throat and gastro-intestinal tract.

11.2.2 Serious Eye Damage / Irritation
Based on information for Portland cement and calcium oxide: Causes serious eye damage and possible blindness. Damage may be permanent if treatment is not immediate.

11.2.3 Specific Target Organ Toxicity Single Exposure
Breathing dusts causes respiratory irritation. Inflammation of the respiratory passages, ulceration and perforation of the nasal septum and pneumonia has been attributed to the inhalation of dust containing calcium oxide.

11.2.4 Aspiration Hazard
This material is corrosive; if aspiration into the lungs occurs during vomiting, severe lung damage may result.

11.3 CHRONIC TOXICITY

11.3.1 Specific Target Organ Toxicity Repeated Exposure
Prolonged and repeated breathing of dust may cause lung disease. The extent and severity of lung injury correlates with the length of exposure and dust concentration. Inflammation of the respiratory passages, ulceration and perforation of the nasal septum and pneumonia has been attributed to the inhalation of dust containing calcium oxide.

May contain crystalline silica. Long-term exposure to fine airborne crystalline silica dust may cause silicosis, a form of pulmonary fibrosis that can cause shortness of breath, cough and reduced lung function. Exposure may also cause chronic obstructive pulmonary disease (COPD) and weight loss. In severe cases, there may be effects on the heart and death from heart failure. Particles with diameters less than 1 micrometer are considered most hazardous.

11.3.2 Respiratory and/or Skin Sensitization
Not known to be a respiratory or skin sensitizer. Based on information for Portland cement: causes exertional dyspnea (breathing difficulty), wheezing, chronic bronchitis. Repeated or prolonged contact with skin may cause dermatitis. Repeated or prolonged contact may cause skin sensitizing.

Based on information for calcium oxide: repeated or prolonged contact with skin may cause dermatitis.

11.3.3 Germ Cell Mutagenicity
Not available.

11.3.4 Reproductive Effects
Not available.

11.3.5 Developmental Effects
Not available.

11.3.6 Carcinogenicity
Portland cement, a component of ConduCrete, contains crystalline silica which is considered a hazard by inhalation. The International Agency for Research on Cancer (IARC) has classified crystalline silica as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity.

11.3.7 Interaction with Other Chemicals
Not available.

SECTION 12 | ECOLOGICAL INFORMATION

12.1 ECOTOXICITY
The environmental hazard of the product is considered to be limited.

12.2 PERSISTENCE AND DEGRADABILITY
High persistence in soil as degradation is not expected to be a significant fate in organisms or the environment.

12.3 BIOACCUMULATION POTENTIAL
Low bioaccumulation potential as negligible water solubility restricts route of exposure to the aquatic environment.

12.4 MOBILITY IN SOIL
Mobility is insignificant due to negligible water solubility and vapor pressure. May incorporate within soil for extended periods of time.

12.5 OTHER ADVERSE EFFECTS
None. Attempts to quantify unalkylated PAH, sulfur, and metal leachate values remained below detection limits under freshwater test conditions.

SECTION 13 | DISPOSAL CONSIDERATIONS

13.1 WASTE DISPOSAL
Reuse or recycle material and containers whenever possible to minimize the generation of waste. All Federal, Provincial / State, and Local regulations regarding health and pollution must be followed for disposal.

13.2 CONTAMINATED PACKAGING
Since emptied containers may retain product residue, follow label warnings even after container is emptied.

SECTION 14 | TRANSPORT INFORMATION

This product is not classified as a Hazardous Material under U.S. DOT or Canadian TDG regulations. This material is not classified as dangerous under ADR, RID, ADNR, IMDG and IATA regulations.

SECTION 15 | REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS / LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

15.1 USA
15.1.1 TSCA Status
Substances are listed on the TSCA inventory or are exempt.

15.1.2 California Proposition 65
This product contains, or may contain, trace quantities of a substance known to the state of California to cause cancer. ConduCrete may contain 0.01-0.75 wt% of crystalline silica (CAS No. 14808-60-7).

15.1.3 OSHA HazCom 2012 Hazards
Skin Irritation Cat. 2
Eye Damage Cat. 1
Specific Target Organ Toxicity, Single Exposure, Cat. 3
Carcinogenicity Cat. 1 (inhalation)

15.2 CANADA

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the SDS contains all the information required by the *Controlled Products Regulations*.

15.2.1 WHMIS 1988 Classification

D2A - Other toxic effects (mixture containing low amounts of crystalline silica).
E - Corrosive - Mixture containing calcium oxide; pH > 12 (possible skin irritant in slurry form)

15.2.2 NSNR Status

Substances are listed on the DSL or are exempt

SECTION 16 | OTHER INFORMATION

16.1 REVISION DATE

September 9, 2023

16.2 HMIS HAZARD RATINGS

Health: 2
Flammability: 1
Physical Hazard: 0

16.3 NFPA RATINGS

16.4 ADDITIONAL INFORMATION

This safety data sheet is believed to provide a useful summary of the hazards of ConduCrete as it is commonly used but cannot anticipate and provide all the information that might be needed in every situation. It relates specifically to the product designated and may not be valid for the product when used within any other materials or products or in a particular process.

The information provided herein was believed by SAE Inc. to be accurate at the time of preparation or prepared from sources believed to be reliable. However, no representation, warranty or guarantee, express or implied, is made as to its accuracy, reliability or completeness. It is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. We do not accept responsibility for any loss or damage which may occur from the use of this information.