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FINAL REPORT

Report ID : 319383

Report Information

Submitting Organisation : 00109358 : Parchem Construction Supplies Pty Ltd
Account : 130335 : Parchem Construction Supplies Pty Ltd
AWQC Reference : 130335-2021-CSR-5 : Prod Test: Fosroc Nitomortar 903
Project Reference : PT-4645
Product Designation : Fosroc Nitomortar 903 Epoxy Primer/Binder
Composition of Product : Two-Component, Low Viscosity Epoxy Resin System.
Product Manufacturer : Parchem Construction Supplies Pty Ltd., Lucca Rd, Wyong, NSW, AUSTRALIA.
Use of Product : In-Line/Primer for Concrete and Binder for Epoxy Mortars.
Sample Selection: As provided by the submitting organisation.
Testing Requested : **AS/NZS 4020 TESTING OF PRODUCTS FOR USE IN CONTACT WITH DRINKING WATER**
Product Type : Composite
Samples : Samples were prepared and controlled as described in Appendix A of AS/NZS 4020:2018
Extracts : Extracts were prepared as described in Appendix/Clause C, D, E, F, H, 6.8.
Project Completion Date : 06-Sep-2021
Project Comment : Product sample received on the 01-Jun-2021, testing commenced 08-Jun-2021.

PLEASE NOTE THAT THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL

THE RESULTS STATED IN THIS REPORT RELATE TO THE SAMPLE OF THE PRODUCT SUBMITTED FOR TESTING. ANY CHANGES IN THE MATERIAL FORMULATION, PROCESS OF MANUFACTURE, THE METHOD OF APPLICATION, OR THE SURFACE AREA-TO-VOLUME RATIO IN THE END USE, COULD AFFECT THE SUITABILITY OF THE PRODUCT FOR USE IN CONTACT WITH DRINKING WATER

Michael Glasson
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Summary of Results

APPENDIX/CLAUSE	RESULTS
C – Taste	Passed at an exposure of 15000 mm ² per Litre.
D – Appearance	Passed at an exposure of 15000 mm ² per Litre.
E – Growth of Aquatic Micro-organisms	Passed at an exposure of 15000 mm ² per Litre.
F – Cytotoxic Activity	Passed at an exposure of 15000 mm ² per Litre.
H – Metals	Passed at an exposure of 15000 mm ² per Litre.
6.8 – Organic Compounds	Passed at an exposure of 15000 mm ² per Litre.

Test Methods

Test(s) in Appendix	AWQC Test Method	Reference Method
C	T0320-01	AS/NZS 4020:2018
D	TO029-01 & TO018-01	APHA 2120c & APHA 2130b
E	TO014-03	APHA 4500 O G
F	TM-001	AS/NZS 4020:2018
H	TIC-006	EPA 200.8

Organic Test Methods

Test(s) in Clause	Test Method	Reference Method
Clause 6.8	TMZ-M36	USEPA524.2
	EP239	USEPA521
	EP132-LL	USEPA_SW846-8270D
	EP075C	USEPA_SW846-8270D
	EP075ASIM	USEPA_SW846-8270D

Summary Comment :

Two-component epoxy resin was applied with a 2:1 (Base:Hardener) ratio by volume and cured for 7 days at 20°C prior to the commencement of testing.



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CLAUSE 6.2 Taste

Sample Description The sample consisted of two glass slides each with a single side coated measuring 75 mm x 100 mm giving an approximate surface area of 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Taste (Appendix C)

Test Information

Scaling Factor Not applied.

Results Not detected (sample and controls).

Evaluation The product passed the requirements of clause 6.2 when tested at an exposure of 15000 mm² per Litre.

Number of Samples 2.

Test Comment The 24 hour extracts were not analysed in this test.

Peter Christopoulos
APPROVED SIGNATORY



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CLAUSE 6.3 Appearance

Sample Description The sample consisted of two glass slides each with a single side coated measuring 75 mm x 100 mm giving an approximate surface area of 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Appearance (Appendix D)

Scaling Factor Not applied.

Results

	<u>Test (- Blank)</u>	<u>Maximum Allowed</u>	<u>Units</u>
Colour	<1	5	HU
Turbidity	<0.1	0.5	NTU

Evaluation The product passed the requirements of clause 6.3 when tested at an exposure of 15000 mm² per Litre.

Number of Samples 1.

Test Comment Not applicable.

Andrew Ford
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CLAUSE 6.4 Growth of Aquatic Micro-organisms

Sample Description The sample consisted of two glass slides each with a single side coated measuring 75 mm x 100 mm giving an approximate surface area of 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of test water.

Test Method Growth of Aquatic Micro-organisms (Appendix E)

Inoculum The volume of the inoculum was 100 mL

Scaling Factor Not applied.

Results

Mean Dissolved Oxygen	Control	7.6 mg/L
Mean Dissolved Oxygen Difference	Positive Reference	5.3 mg/L
	Negative Reference	<0.1 mg/L
	Test	2.20 mg/L

Evaluation The product passed the requirements of clause 6.4 when tested at an exposure of 15000 mm² per Litre.

Number of Samples 1.

Test Comment Not applicable.



Thuy Diep
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CLAUSE 6.5 Cytotoxic Activity

Sample Description The sample consisted of two glass slides each with a single side coated measuring 75 mm x 100 mm giving an approximate surface area of 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Cytotoxic Activity (Appendix F)

Scaling Factor Not applied.

Results Non-Cytotoxic (sample and controls).

Evaluation The product passed the requirements of clause 6.5 when tested at an exposure of 15000 mm² per Litre.

Number of Samples 1.

Test Comment The test extracts and blank extracts were used to prepare nutrient growth medium and subsequently used to grow a cell line (ATCC Number CCL 81) in the analysis. In addition zinc sulphate (0.4 mmol) was used for the positive control in the analysis.

Brendon King
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CLAUSE 6.7

Metals

Sample Description

The sample consisted of two glass slides each with a single side coated measuring 75 mm x 100 mm giving an approximate surface area of 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature

20°C ± 2°C.

Test Method

Metals (Appendix H)

Scaling Factor

Not applied.

Method of Analysis

All methods used to determine concentrations of metals are based on those described in the US EPA method 200.8 Determination of Trace elements in Waters and Wastes by Inductively Coupled Plasma - Mass Spectrometry. The methods have been adapted for the instrumentation in use at the Australian Water Quality Centre.

Concentration of the metals described in Table 2 of the AS/NZS 4020:2018 are determined as follows:

Aluminium, Antimony, Arsenic, Barium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium and Silver by Inductively Coupled Plasma Mass Spectrometry.

Results	Limit of Reporting mg/L	Blank mg/L	Test 1 mg/L	Test 2 mg/L	Max Allowed mg/L
Final Extract					
Aluminium	0.001	<0.001	0.005	0.006	0.2
Antimony	0.0005	<0.0005	<0.0005	<0.0005	0.003
Arsenic	0.0003	<0.0003	<0.0003	<0.0003	0.01
Barium	0.0005	<0.0005	<0.0005	<0.0005	0.7
Boron	0.020	<0.020	<0.020	<0.020	1.4
Cadmium	0.0001	<0.0001	<0.0001	<0.0001	0.002
Chromium	0.0001	<0.0001	<0.0001	0.0002	0.05
Copper	0.0001	<0.0001	<0.0001	<0.0001	2.0
Iron	0.0005	<0.0005	<0.0005	0.0007	0.3
Lead	0.0001	<0.0001	<0.0001	<0.0001	0.01
Manganese	0.0001	<0.0001	<0.0001	<0.0001	0.1
Mercury	0.00003	<0.00003	<0.00003	0.00003	0.001
Molybdenum	0.0001	<0.0001	<0.0001	0.0002	0.05
Nickel	0.0001	<0.0001	<0.0001	<0.0001	0.02
Selenium	0.0001	<0.0001	<0.0001	<0.0001	0.01
Silver	0.00003	<0.00003	<0.00003	<0.00003	0.1

Evaluation

The product passed the requirements of clause 6.7 when tested at an exposure of 15000 mm² per Litre.

Number of Samples

1.

Test Comment

Not applicable.



Dzung Bui

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CLAUSE 6.8 Organic Compounds

Sample Description The sample consisted of two glass slides each with a single side coated measuring 75 mm x 100 mm giving an approximate surface area of 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Organic Compounds (Clause 6.8). Max Allowed values are taken from the Australian Drinking Water Guidelines and Drinking-water Standards for New Zealand. Please note, some reported compounds have no guideline value.

Scaling Factor Not applied.

Results

Organic Compound

Nitrosamines	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2122722	ES2122722	
1-Nitrosopiperidine (NPip)	<0.003	<0.003	
1-Nitrosopyrrolidine (NPyr)	<0.01	<0.01	
Nitrosomorpholine (NMor)	<0.003	<0.003	
N-Nitrosodiethylamine (NDEA)	<0.01	<0.01	
N-Nitrosodimethylamine (NDMA)	<0.003	<0.003	0.1 µg/L
N-Nitrosodi-n-propylamine (NDPA)	<0.003	<0.003	
N-Nitrosomethylethylamine (NMEA)	<0.003	<0.003	

Organic Compound

Phenols	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2122722	ES2122722	
2 4 5-trichlorophenol	<1.0	<1.0	
2 4 6-trichlorophenol	<1.0	<1.0	20 µg/L
2 4-dichlorophenol	<1.0	<1.0	200 µg/L
2 4-dimethylphenol	<1.0	<1.0	
2 6-dichlorophenol	<1.0	<1.0	
2-chlorophenol	<1.0	<1.0	300 µg/L
2-nitrophenol	<1.0	<1.0	
4-chloro-3-methylphenol	<1.0	<1.0	
m+p cresol	<2.0	<2.0	
o-cresol	<1.0	<1.0	
pentachlorophenol	<2.0	<2.0	9 µg/L
phenol	<1.0	<1.0	



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Organic Compound

Phthalate Esters

	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2122722	ES2122722	
Bis(2-ethylhexyl) phthalate	<10	<10	10 µg/L
Butyl benzyl phthalate	<2	<2	
Di(2-ethylhexyl) adipate	<2	<2	
Diethyl phthalate	<2	<2	
Dimethyl phthalate	<2	<2	
Di-n-butyl phthalate	<2	<2	
Di-n-octyl phthalate	<2	<2	

Organic Compound

Polycyclic Aromatic Hydrocarbons

	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2122722	ES2122722	
Acenaphthene	<0.02	<0.02	
Acenaphthylene	<0.02	<0.02	
Anthracene	<0.02	<0.02	
Benzo(a)anthracene	<0.02	<0.02	
Benzo(a)pyrene	<0.005	<0.005	0.01 µg/L
Benzo(a)pyrene TEQ	<0.005	<0.005	
Benzo(b+j)fluoranthene	<0.02	<0.02	
Benzo(ghi)perylene	<0.02	<0.02	
Benzo(k)fluoranthene	<0.02	<0.02	
Chrysene	<0.02	<0.02	
Dibenzo(a-h)anthracene	<0.02	<0.02	
Fluoranthene	<0.02	<0.02	
Fluorene	<0.02	<0.02	
Indeno(123-cd)pyrene	<0.02	<0.02	
Naphthalene	<0.02	<0.02	
PAH - Total	<0.005	<0.005	
Phenanthrene	<0.02	<0.02	
Pyrene	<0.02	<0.02	



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Organic Compound	Blank µg/L	Test µg/L	Max Allowed
Volatile Organic Compounds GCMS			
1 1 1 2-Tetrachloroethane	<1	<1	
1 1 1-Trichloroethane	<1	<1	
1 1 2 2-Tetrachloroethane	<1	<1	
1 1 2-Trichloroethane	<1	<1	
1 1-Dichloropropene	<1	<1	
1 2 3-Trichlorobenzene	<1	<1	
1 2 3-Trichloropropane	<1	<1	
1 2 4-Trichlorobenzene	<1	<1	
1 2 4-Trimethylbenzene	<1	<1	
1 2-Dibromo-3-chloropropane	<1	<1	1 µg/L
1 2-Dibromoethane	<1	<1	1 µg/L
1 2-Dichlorobenzene	<1	<1	1500 µg/L
1 2-Dichloroethane	<1	<1	3 µg/L
1 2-Dichloropropane	<1	<1	
1 3 5-Trimethylbenzene	<1	<1	
1 3-Dichlorobenzene	<1	<1	
1 3-Dichloropropane	<1	<1	
1 4-Dichlorobenzene	<1	<1	40 µg/L
1,1-Dichloroethane	<1	<1	
1,1-Dichloroethene	<1	<1	30 µg/L
2,2-Dichloropropane	<1	<1	
2-Chlorotoluene	<1	<1	
4-Chlorotoluene	<1	<1	
4-Isopropyltoluene	<1	<1	
Benzene	<1	<1	1 µg/L
Bromobenzene	<1	<1	
Bromochloromethane	<1	<1	
Bromodichloromethane	<1	<1	60 µg/L
Bromoform	<1	<1	100 µg/L
Bromomethane	<4	<4	
Carbon tetrachloride	<1	<1	3 µg/L
Chlorobenzene	<1	<1	300 µg/L
Chloroethane	<4	<4	
Chloroform	<1	<1	400 µg/L
Chloromethane	<4	<4	
cis-1 3-Dichloropropene	<1	<1	
cis-1,2-Dichloroethene	<1	<1	
Dibromochloromethane	<1	<1	150 µg/L
Dibromomethane	<1	<1	
Dichlorodifluoromethane	<1	<1	
Dichloromethane	<4	<4	4 µg/L
Ethylbenzene	<1	<1	300 µg/L
Hexachlorobutadiene	<0.7	<0.7	0.7 µg/L
Isopropylbenzene	<1	<1	
m+p-Xylenes - Total	<2	<2	



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Volatile Organic Compounds GCMS	Blank µg/L	Test µg/L	Max Allowed
Naphthalene	<1	<1	
n-Butylbenzene	<1	<1	
n-Propylbenzene	<1	<1	
o-Xylene	<1	<1	
sec-Butylbenzene	<1	<1	
Styrene	<1	<1	30 µg/L
tert-Butylbenzene	<1	<1	
Tetrachloroethene	<1	<1	50 µg/L
Toluene	<1	<1	800 µg/L
Total 1,2-dichloroethene	<2	<2	60 µg/L
Total 1,3-dichloropropene	<2	<2	20 µg/L
Total Trichlorobenzene	<2	<2	30 µg/L
Total Xylene	<3	<3	600 µg/L
trans-1,3-Dichloropropene	<1	<1	
trans-1,2-Dichloroethene	<1	<1	
Trichloroethene	<1	<1	
Trichlorofluoromethane	<1	<1	
Trihalomethanes - Total	<4	<4	250 µg/L
Vinyl chloride	<0.3	<0.3	0.3 µg/L

Evaluation The product passed the requirements of clause 6.8 when tested at an exposure of 15000 mm² per Litre.

Number of Samples 1.

Test Comment Subcontracted testing conducted by ALS, Environmental Division, NATA accreditation no. 825 site no. 10911 and ALS Scoresby, NATA accreditation no. 992, site no. 989



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