

FINAL REPORT

Report ID : 251753

Report Information

Submitting Organisation : 00109358 : Parchem Construction Supplies Pty Ltd
Account : 130335 : Parchem Construction Supplies Pty Ltd
AWQC Reference : 130335-2018-CSR-4 : Prod Test: Fosroc Primer 13
Project Reference : PT-3784
Product Designation : Fosroc Primer 13
Composition of Product : Base and Hardener Components of Two Part Epoxy Primer System.
Product Manufacturer : Parchem Construction Supplies Pty Ltd, Lucca Road, Wyong, NSW, AUSTRALIA.
Use of Product : In-Line/Two Part Epoxy Primer System.
Sample Selection : As provided by the submitting organisation.
Testing Requested : **AS/NZS 4020:2005 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 4020:2005
Extracts : Extracts were prepared as described in Appendix C, D, E, F, G, H.
Project Completion Date : 22-May-2019
Project Comment : The results presented herein demonstrate compliance of Fosroc Primer 13 to AS/NZS 4020 when exposed at area to volume ratios up to 7500 mm²/L at 20°C ± 2°C.

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
APPROVED SIGNATORY



Corporate Accreditation No.1115
Chemical and Biological Testing
Accredited for compliance with ISO/IEC 17025

FINAL REPORT

Report ID : 251753

Summary of Results

| APPENDIX | RESULTS |
|---|--|
| C – Taste of Water Extract | Passed at an exposure of 7500 mm ² per Litre. |
| D – Appearance of Water Extract | Passed at an exposure of 7500 mm ² per Litre. |
| E – Growth of Aquatic Micro-organisms | Passed at an exposure of 7500 mm ² per Litre. |
| F – Cytotoxic Activity of Water Extract | Passed at an exposure of 7500 mm ² per Litre. |
| G – Mutagenic Activity of Water Extract | Passed at an exposure of 7500 mm ² per Litre. |
| H – Extraction of Metals | Passed at an exposure of 7500 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 2130b |
| E | TO014-03 | APHA 4500 O C |
| F | TM-001 | AS/NZS 4020:2018 |
| G | TM-002 | AS/NZS 4020:2018 |
| H | TIC-006 | EPA 200.8 |

Summary Comment : Base and Hardener were mixed in equal ratios by volume, applied to glass slides and cured for 7 days at 20°C prior to testing.

FINAL REPORT

Report ID : 251753

CLAUSE 6.2 Taste of Water Extract

| | |
|------------------------------|--|
| Sample Description | The two part epoxy primer system was applied onto a single sided glass substrate (75 mm x 100mm) providing a total surface area of approximately 7500 mm ² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water. |
| Extraction Temperatur | 20°C ± 2°C. |
| Test Method | Taste of Water Extract (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 7500 mm ² per Litre. |
| Number of Samples | 2. |
| Test Comment | Not applicable. |



Michael Glasson
APPROVED SIGNATORY



Corporate Accreditation No.1115
Chemical and Biological Testing
Accredited for compliance with ISO/IEC 17025

FINAL REPORT

Report ID : 251753

CLAUSE 6.3 Appearance of Water Extract

Sample Description The two part epoxy primer system was applied onto a single sided glass substrate (75 mm x 100mm) providing a total surface area of approximately 7500 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperatur 20°C ± 2°C.

Test Method Appearance of Water Extract (Appendix D)

Scaling Factor Not applied.

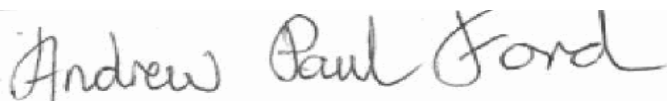
Results

| | <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 7500 mm² per Litre.

Number of Samples 1.

Test Comment Not applicable.



Andrew Ford
APPROVED SIGNATORY



Corporate Accreditation No.1115
Chemical and Biological Testing
Accredited for compliance with ISO/IEC 17025

FINAL REPORT

Report ID : 251753

CLAUSE 6.4 Growth of Aquatic Micro-organisms

Sample Description The two part epoxy primer system was applied onto a single sided glass substrate (75 mm x 100mm) providing a total surface area of approximately 7500 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 | 7.3 mg/L |
| Mean Dissolved Oxygen Differenc | Positive Reference | 5.1 mg/L |
| | Negative Reference | <0.1 mg/L |
| | Test | 0.20 mg/L |

Evaluation The product passed the requirements of clause 6.4 when tested at an exposure of 7500 mm² per Litre.

Number of Samples 1.

Test Comment Not applicable.



Thuy Diep
APPROVED SIGNATORY



Corporate Accreditation No.1115
Chemical and Biological Testing
Accredited for compliance with ISO/IEC 17025

FINAL REPORT

Report ID : 251753

CLAUSE 6.5 Cytotoxic Activity of Water Extract

| | |
|------------------------------|--|
| Sample Description | The two part epoxy primer system was applied onto a single sided glass substrate (75 mm x 100mm) providing a total surface area of approximately 7500 mm ² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water. |
| Extraction Temperatur | 20°C ± 2°C. |
| Test Method | Cytotoxic Activity of Water Extract (Appendix F) |
| Scaling Factor | Not applied. |
| Results | Non-cytotoxic. |
| Evaluation | The product passed the requirements of clause 6.5 when tested at an exposure of 7500 mm ² 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. |



Stella Fanok
APPROVED SIGNATORY



Corporate Accreditation No.1115
Chemical and Biological Testing
Accredited for compliance with ISO/IEC 17025

FINAL REPORT

Report ID : 251753

CLAUSE 6.6 Mutagenic Activity of Water Extract

Sample Description The two part epoxy primer system was applied onto a single sided glass substrate (75 mm x 100mm) providing a total surface area of approximately 7500 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperatur 20°C ± 2°C.

Test Method Mutagenic Activity of Water Extract (Appendix G)

Scaling Factor Not applied.

Results

| Bacteria Strain | Number of Revertants per Plate | | | | |
|-------------------------------------|--------------------------------|---------------|----------------|-------------------|---------------------------|
| | S9 | Blank | Sample Extract | Positive Controls | |
| <i>Salmonella typhimurium</i> TA98 | - | 29, 29, 35 | 20, 21, 28 | 4092, 4199, 3847 | <u>NPD</u> (20µg) |
| Mean ± Standard deviation | | 31.0 ± 3.5 | 23.0 ± 4.4 | 4046.0 ± 180.5 | |
| | + | 33, 34, 34 | 23, 31, 27 | 3734, 3571, 3786 | <u>2-AF</u> (20µg) |
| Mean ± Standard deviation | | 33.7 ± 0.6 | 27.0 ± 4.0 | 3697.0 ± 112.2 | |
| <i>Salmonella typhimurium</i> TA100 | - | 189, 184, 204 | 156, 147, 165 | 766, 794, 979 | <u>Azide</u> (1.0µg) |
| Mean ± Standard deviation | | 192.3 ± 10.4 | 156.0 ± 9.0 | 846.3 ± 115.7 | |
| | + | 208, 213, 179 | 189, 188, 193 | 2796, 2843, 2575 | <u>2-AF</u> (20µg) |
| Mean ± Standard deviation | | 200.0 ± 18.4 | 190.0 ± 2.6 | 2738.0 ± 143.1 | |
| <i>Salmonella typhimurium</i> TA102 | - | 412, 490, 488 | 463, 475, 531 | 6017, 5374, 6239 | <u>Mitomycin C</u> (10µg) |
| Mean ± Standard deviation | | 463.3 ± 44.5 | 489.7 ± 36.3 | 5876.7 ± 449.3 | |
| | + | 484, 503, 483 | 454, 497, 480 | 2676, 3288, 3494 | |
| Mean ± Standard deviation | | 490.0 ± 11.3 | 477.0 ± 21.7 | 3152.7 ± 425.5 | |

Comments S9 was used as a metabolic activator. NPD (4-nitro-o-phenylenediamine), Azide, and Mitomycin C are specific positive controls for strains TA98, TA100 and TA102 respectively while 2 - AF (2-aminofluorene) when used in conjunction with S9 is a positive control for both TA98 and TA100

Evaluation The product passed the requirements of clause 6.6 when tested at an exposure of 7500 mm² per Litre.

Number of Samples 1.

Test Comment Not applicable.



Michael Glasson
APPROVED SIGNATORY



Corporate Accreditation No.1115
Chemical and Biological Testing
Accredited for compliance with ISO/IEC 17025

FINAL REPORT

Report ID : 251753

CLAUSE 6.7 Extraction of Metals

Sample Description The two part epoxy primer system was applied onto a single sided glass substrate (75 mm x 100mm) providing a total surface area of approximately 7500 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Extraction of 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 21st edition of Standard Methods for the Examination of Water and Wastewater published by the APHA, AWWA and WEF (2005). 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 4020:2005 are determined as follows:
Antimony, Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium and Silver by Inductively Coupled Plasma Mass

| Results | Limit of Reporting mg/L | Blank mg/L | Test 1 mg/L | Test 2 mg/L | Max Allowed mg/L |
|----------------------|----------------------------|---------------|----------------|----------------|---------------------|
| Final Extract | | | | | |
| Antimony | 0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.003 |
| Arsenic | 0.0003 | <0.0003 | <0.0003 | <0.0003 | 0.007 |
| Barium | 0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.7 |
| Cadmium | 0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.002 |
| Chromium | 0.0001 | 0.0001 | <0.0001 | <0.0001 | 0.05 |
| Copper | 0.0001 | <0.0001 | <0.0001 | <0.0001 | 2.0 |
| Lead | 0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.01 |
| Mercury | 0.00003 | <0.00003 | <0.00003 | <0.00003 | 0.001 |
| Molybdenum | 0.0001 | <0.0001 | <0.0001 | <0.0001 | 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 7500 mm² per Litre.

Number of Samples 1.

Test Comment Not applicable.



Dzung Bui
APPROVED SIGNATORY



Corporate Accreditation No.1115
Chemical and Biological Testing
Accredited for compliance with ISO/IEC 17025