

AUSTRALIAN WATER
QUALITY CENTRE

Our Reference: REF130086-0007

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Date	7 th November 2000

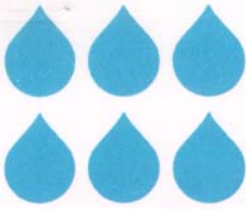
Xypex Australia
PO Box 255
Lavington 2641

Dear Sir,

Attached is a report to AS/NZS 4020 -1999 for the Xypex Modified submitted for testing. The product passed all the requirements of the Standard at an exposure of 15000 mm² per Litre. Should you have any enquiries about the report or any other matters pertaining to the Standard please contact Marilena Marchesan or Michael Glasson on 08 8259 0332.

Yours sincerely,

Marilena Marchesan
SENIOR TECHNICAL OFFICER



AUSTRALIAN WATER
QUALITY CENTRE



This laboratory is accredited by the National Association of Testing Authorities, Australia. The Test(s) reported herein have been performed in accordance with its terms of accreditation. This document shall not be reproduced except in full.

Accreditation No 1115
Accreditation No 1390

Chemical Testing
Biological Testing

CERTIFICATE OF TEST

REPORT NUMBER 4007/92.700

SAMPLE REFERENCE 130086-0007

DATE 19/10/00

TRADE NAME OF PRODUCT XYPEX MODIFIED

COMPOSITION OF PRODUCT CEMENTITIOUS.

PRODUCT MANUFACTURER XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.

SUBMITTING ORGANISATION XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.

USE OF PRODUCT APPLIED COATING -WATER PROOF CONCRETE.

TESTING REQUESTED **AS/NZS 4020:1999**
PRODUCTS FOR USE IN CONTACT WITH DRINKING WATER
(ON SAMPLES RECEIVED AT THE AUSTRALIAN WATER QUALITY CENTRE)

SAMPLES SAMPLES WERE PREPARED AND CONTROLLED AS DESCRIBED IN

EXTRACTS APPENDIX A OF AS/NZS 4020:1999
EXTRACTS WERE PREPARED AS DESCRIBED IN APPENDICES C - G
AS INDICATED (NON-METALLIC PRODUCTS).

TEST REPORT **COMMENCES ON PAGE 2. 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 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.

M.MARCHESAN
APPROVED SIGNATORY



HODGSON ROAD, BOLIVAR, SOUTH AUSTRALIA
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TEST REPORT FOR ASINZS 4020:1999

CLAUSE 6.2 - TASTE OF WATER EXTRACT

TESTING LABORATORY	AUSTRALIAN WATER QUALITY CENTRE PORT WAKEFIELD ROAD, BOLIVAR, SOUTH AUSTRALIA (NATA Accreditation No. 1115)	
REPORT NUMBER	4007/92.700	
SAMPLE REFERENCE	130086-0007	
DATE	19/10/00	
TRADE NAME OF PRODUCT	XYPEX MODIFIED	
COMPOSITION OF PRODUCT	CEMENTITIOUS.	
PRODUCT MANUFACTURER	XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.	
SUBMITTING ORGANISATION	XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.	
USE OF PRODUCT	APPLIED COATING -WATER PROOF CONCRETE.	
DESCRIPTION OF SAMPLE	<p>The sample was prepared, as instructed by the submitting organisation. The product was applied to the surface of two glass panels with dimensions 75 x 100 mm at a thickness of 1.25 mm and providing a total surface area of 15000 mm² per Litre. After 48 hours a second coat was applied and the samples were then cured for 7 days at 25°C.</p> <p>Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.</p>	
CEMENTITIOUS PRODUCTS	A standard moist-curing of 28 days at 22°C was performed in accordance with AS 1012.8. After curing the samples were pre-conditioned with water with an aggressivity index of 12.6. Five sequential soakings were performed to obtain a pH < 9.0	
TEST METHOD	AS/NZS 4020:1999	TASTE OF WATER EXTRACT (APPENDIX C)
SCALING FACTOR	Not applied.	
RESULTS	No tastes were detected in the controls or in the extracts prepared at an exposure of 15000 MM ² per Litre with chlorinated and non-chlorinated water.	
EVALUATION	The product passed the requirements of clause 6.2 when tested at an exposure of 15000 MM ² per Litre.	
NUMBER OF SAMPLES	Two samples were tested.	

M. Marchesan

M. MARCHESAN - SENIOR TECHNICAL OFFICER
APPROVED SIGNATORY

TEST REPORT FOR AS/NZS 4020:1999

CLAUSE 6.3 - APPEARANCE OF WATER EXTRACT

TESTING LABORATORY AUSTRALIAN WATER QUALITY CENTRE
PORT WAKEFIELD ROAD, BOLIVAR, SOUTH AUSTRALIA
(NATA Accreditation No. 1115)

REPORT NUMBER 4007/92.699

REPORT NUMBER 4007/92.700

SAMPLE REFERENCE 130086-0007

DATE 19/10/00

TRADE NAME OF PRODUCT XYPEX MODIFIED

COMPOSITION OF PRODUCT CEMENTITIOUS.

PRODUCT MANUFACTURER XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.

SUBMITTING ORGANISATION XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.

USE OF PRODUCT APPLIED COATING -WATER PROOF CONCRETE.

DESCRIPTION OF SAMPLE The sample was prepared, as instructed by the submitting organisation. The product was applied to the surface of two glass panels with dimensions 75 x 100 mm at a thickness of 1.25 mm and providing a total surface area of 15000 mm² per Litre. After 48 hours a second coat was applied and the samples were then cured for 7 days at 25°C.

Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

CEMENTITIOUS PRODUCTS A standard moist-curing of 28 days at 22°C was performed in accordance with AS 1012.8. After curing the samples were pre-conditioned with water with an aggressivity index of 12.6. Five sequential soakings were performed to obtain a pH < 9.0

TEST METHOD AS/NZS 4020:1999 APPEARANCE OF WATER EXTRACT
(APPENDIX D)

SCALING FACTOR Not applied.

RESULTS

	Test (- Blank)	Maximum Allowed	
Colour	< 3.0	5.0	HU
Turbidity	< 0.38	0.5	NTU

EVALUATION The first extract passed the requirements of clause 6.3 when tested at an exposure of 1500 mm² per Litre

NUMBER OF SAMPLES One sample was tested.



P.M.THOMAS - SENIOR CHEMIST
APPROVED SIGNATORY

TEST REPORT FOR AS/NZS 4020:1999

CLAUSE 6.4 - GROWTH OF AQUATIC MICRO-ORGANISMS

TESTING LABORATORY AUSTRALIAN WATER QUALITY CENTRE
PORT WAKEFIELD ROAD, BOLIVAR, SOUTH AUSTRALIA
(NATA Accreditation No. 1115)

REPORT NUMBER 4007/92.700

SAMPLE REFERENCE 130086-0007

DATE 19/10/00

TRADE NAME OF PRODUCT XYPEX MODIFIED

COMPOSITION OF PRODUCT CEMENTITIOUS.

PRODUCT MANUFACTURER XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.

SUBMITTING ORGANISATION XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.

USE OF PRODUCT APPLIED COATING -WATER PROOF CONCRETE.

DESCRIPTION OF SAMPLE The sample was prepared, as instructed by the submitting organisation. The product was applied to the surface of two glass panels with dimensions 75 x 100 mm at a thickness of 1.25 mm and providing a total surface area of 15000 MM² per Litre. After 48 hours a second coat was applied and the samples were then cured for 7 days at 25°C.

Extracts were prepared using a 1000 mL volume of water.

CEMENTITIOUS PRODUCTS A standard moist-curing of 28 days at 22°C was performed in accordance with AS 1012.8. After curing the samples were pre-conditioned with water with an aggressivity index of 12.6. Five sequential soakings were performed to obtain a pH < 9.0

TEST METHOD AS/NZS 4020:1999 GROWTH OF AQUATIC MICRO ORGANISMS (APPENDIX E)

INOCULUM The volume of inoculum was 100 mL.

SCALING FACTOR Not applied.

RESULTS

Mean Dissolved Oxygen	Control	6.7	mg/L
Mean Dissolved Oxygen Difference	Positive Reference	4.9	mg/L
	Negative Reference	0.2	mg/L
	Test	< 0.1	mg/L

EVALUATION The Mean Dissolved Oxygen Difference in the extracts did not exceed the maximum allowed. Accordingly the product passed the requirements of clause 6.4 at an exposure of 15000 mm² per Litre.

NUMBER OF SAMPLES One sample was tested.



P.M.THOMAS - SENIOR CHEMIST
APPROVED SIGNATORY

TEST REPORT FOR AS/NZS 4020:1999

CLAUSE 6.5 - CYTOTOXIC ACTIVITY OF WATER EXTRACT

TESTING LABORATORY	INSTITUTE OF MEDICAL AND VETERINARY SCIENCE FROME ROAD, ADELAIDE, SOUTH AUSTRALIA (NATA Accreditation No. 2348)
REPORT NUMBER	4007/92.700
SAMPLE REFERENCE	130086-0007
DATE	19/10/00
TRADE NAME OF PRODUCT	XYPEX MODIFIED
COMPOSITION OF PRODUCT	CEMENTITIOUS.
PRODUCT MANUFACTURER	XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.
SUBMITTING ORGANISATION	XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.
USE OF PRODUCT	APPLIED COATING - WATER PROOF CONCRETE.
DESCRIPTION OF SAMPLE	The sample was prepared, as instructed by the submitting organisation. The product was applied to the surface of two glass panels with dimensions 75 x 100 mm at a thickness of 1.25 mm and providing a total surface area of 15000 mm ² per Litre. After 48 hours a second coat was applied and the samples were then cured for 7 days at 25°C.
CEMENTITIOUS PRODUCTS	A standard moist-curing of 28 days at 22°C was performed in accordance with AS 1012.8. After curing the samples were pre-conditioned with water with an aggressivity index of 12.6. Five sequential soakings were performed to obtain a pH < 9.0 Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.
TEST METHOD	AS/NZS 4020:1999 CYTOTOXIC ACTIVITY OF WATER EXTRACT (APPENDIX F)
SCALING FACTOR	Not applied.
RESULTS	Confluent growth of regularly-shaped cells was observed in the containers with the control and test extracts.
EVALUATION	No cytotoxic response was detected; accordingly the product passed the requirements of clause 6.5 relating to cytotoxic activity when tested at an exposure of 15000 MM ² per Litre.
NUMBER OF SAMPLES	One sample was tested.



L. PAYNE - SENIOR TECHNICIAN
APPROVED SIGNATORY

TEST REPORT FOR AS/NZS 4020:1999

CLAUSE 6.6 - MUTAGENIC ACTIVITY OF WATER EXTRACT

TESTING LABORATORY	AUSTRALIAN WATER QUALITY CENTRE PORT WAKEFIELD ROAD, BOLIVAR, SOUTH AUSTRALIA (NATA Accreditation No. 1390)	
REPORT NUMBER	4007/92.700	
SAMPLE REFERENCE	130086-0007	
DATE	19/10/00	
TRADE NAME OF PRODUCT	XYPEX MODIFIED	
COMPOSITION OF PRODUCT	CEMENTITIOUS.	
PRODUCT MANUFACTURER	XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.	
SUBMITTING ORGANISATION	XYPEX AUSTRALIA, UNION RD, LAVINGTON, NSW.	
USE OF PRODUCT	APPLIED COATING - WATER PROOF CONCRETE.	
DESCRIPTION OF SAMPLE	<p>The sample was prepared, as instructed by the submitting organisation. The product was applied to the surface of two glass panels with dimensions 75 x 100 mm at a thickness of 1.25 mm and providing a total surface area of 15000 mm² per Litre. After 48 hours a second coat was applied and the samples were then cured for 7 days at 25°C.</p> <p>Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.</p>	
CEMENTITIOUS PRODUCTS	A standard moist-curing of 28 days at 22°C was performed in accordance with AS 1012.8. After curing the samples were pre-conditioned with water with an aggressivity index of 12.6. Five sequential soakings were performed to obtain a pH < 9.0	
TEST METHOD	AS/NZS 4020:1999	MUTAGENIC ACTIVITY OF WATER EXTRACT (APPENDIX G)
SCALING FACTOR	Not applied.	

TEST REPORT FOR AS/NZS 4020:1999

CLAUSE 6.6 - MUTAGENIC ACTIVITY OF WATER EXTRACT

REPORT NUMBER 4007/92.700
SAMPLE REFERENCE 130086-0007
DATE 19/10/00
TEST METHOD AS/NZS 4020:1999 MUTAGENIC ACTIVITY OF WATER EXTRACT (APPENDIX G)

RESULTS

<u>BACTERIAL STRAIN</u>		<u>NUMBER OF REVERTANTS per PLATE</u>			
		S9 Blank	Filtrate	Concentrate	Positive Controls <u>NPD</u> (20ug) <u>2-AF</u> (20ug)
<i>Salmonella typhimurium</i> TA98	-	24, 36, 38	24, 35, 35	23, 26, 30	1305,1060,925
	Mean ± Standard deviation	32.7 ± 7.6	31.3 ± 6.4	26.3 ± 3.5	1096.7 ± 192.6
	+	24, 24, 29	25, 23, 27	29, 17, 34	- 520,533,534
	Mean ± Standard deviation	25.7 ± 2.9	25.0 ± 2.0	26.7 ± 8.7	- 529.0 ± 7.8
					AZIDE (1.0ug) <u>2-AF</u> (20ug)
	<i>Salmonella typhimurium</i> TA100	-	112,105,145	126,124,96	134,135,136
Mean ± Standard deviation		120.7 ± 21.4	115.3 ± 16.8	135.0 ± 1.0	561.7 ± 14.6
	+	120,140,146	93,153,116	168, 160,117	- 564,675,620
	Mean ± Standard deviation	135.3 ± 13.6	120.7 ± 30.3	148.3 ± 27.4	- 619.7 ± 55.5
					MITOMYCIN C (2ug)
	<i>Salmonella typhimurium</i> TA102	-	294,289,237	255,211,272	294,277,271
Mean ± Standard deviation		273.3 ± 31.6	246.0 ± 31.5	280.7 ± 11.9	720.3 ± 81.1
<i>Salmonella typhimurium</i> TA102	+	186,231,207	232,232,185	243,193,195	
	Mean ± Standard deviation	208.0 ± 22.5	216.3 ± 27.1	210.3 ± 28.3	

COMMENTS

S9 was used as a metabolic activator. NPD (4-vitro-o-phenylenediamine), Azide, and Mitomycin C are specific positive controls for strains TA 98, TA 100 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 differences in the mean number of revertants between the blank and test extracts do not exceed two standard deviations; accordingly there is no evidence of any mutagenic effect. The product passed the requirements of clause 6.6 relating to genetic toxicity when tested at an exposure of 15000 mm² per Litre.

NUMBER OF SAMPLES One sample was tested.



M. MARCHESAN - SENIOR TECHNICAL OFFICER
APPROVED SIGNATORY

END OF REPORT

