TEST REPORT FOR AS 4020(INT)-1994

CLAUSE 6 - APPEARANCE OF WATER EXTRACTS

TESTING LABORATORY	AUSTRALIAN WATER QUALITY CENTRE PORT WAKEFIELD ROAD, BOLIVAR, SOUTH AUSTRALIA (NATA Registration No. 1115)
REPORT NUMBER	4007/92.395
SAMPLE REFERENCE	6854.97
DATE	12/06/97
TRADE NAME OF PRODUCT	FORMULATION 17.
COMPOSITION OF PRODUCT	PVC & ETHYLENE INTERPOLYMER ALLOY.
PRODUCT MANUFACTURER	NYLEX FILM AND FABRICS, A DIVISION OF NYLEX CORPORATION LTD., NEPEAN HIGHWAY, MENTONE, VIC.
SUBMITTING ORGANISATION	NYLEX FILM AND FABRICS, A DIVISION OF NYLEX CORPORATION LTD., NEPEAN HIGHWAY, MENTONE, VIC.
USE OF PRODUCT	TANK LINER.
DESCRIPTION OF SAMPLE	Each sample consisted of a panel of dimensions 75 x 100 mm providing a total surface area of 15000 mm^2. Extracts were prepared using 1000 mL volumes of water.
TEST METHOD	AS 4020(Int)-1994 APPEARANCE OF WATER EXTRACT (APPENDIX C)
SCALING FACTOR	Not applied.

RESULTS

	Test (- Blank)	Maximum Allowed	
Colour	< 5.0	5.0	HU
Turbidity	< 0.01	0.5	NTU

EVALUATION The product passed the requirements of clause 6 at an exposure of 15000 mm^2 per Litre.

NUMBER OF SAMPLES One sample was tested.

M.DRIKAS - SENIOR CHEMIST
APPROVED SIGNATORY

TEST REPORT FOR AS 4020(INT)-1994

CLAUSE 7 - GROWTH OF MICRO-ORGANISMS

TESTING LABORATORY	AUSTRALIAN WATER QUALITY CENTRE PORT WAKEFIELD ROAD, BOLIVAR, SOUTH AUSTRALIA (NATA Registration Nos. 1390 and 1115)
REPORT NUMBER	4007/92.395
SAMPLE REFERENCE	6854.97
DATE	12/06/97
TRADE NAME OF PRODUCT	FORMULATION 17.
COMPOSITION OF PRODUCT	PVC & ETHYLENE INTERPOLYMER ALLOY.
PRODUCT MANUFACTURER	NYLEX FILM AND FABRICS, A DIVISION OF NYLEX CORPORATION LTD., NEPEAN HIGHWAY, MENTONE, VIC.
SUBMITTING ORGANISATION	NYLEX FILM AND FABRICS, A DIVISION OF NYLEX CORPORATION LTD., NEPEAN HIGHWAY, MENTONE, VIC.
USE OF PRODUCT	TANK LINER.
DESCRIPTION OF SAMPLE	Each sample consisted of a panel of dimensions 75 x 100 mm providing a total surface area of 15000 mm^2. Extracts were prepared using 1000 mL volumes of water.
TEST METHOD	AS 4020(Int)-1994 GROWTH OF AQUATIC MICRO-ORGANISMS IN EXTRACT (APPENDIX D)
INOCULUM	The volume of inoculum was 100 mL.
SCALING FACTOR	The results were scaled to an exposure of 14000 mm^2 per Litre.

RESULTS

Mean Dissolved Oxygen	Control	7.0	mg/L
Mean Dissolved Oxygen Difference	Positive Reference	5.2	mg/L
	Negative Reference	0	mg/L
	Test	1.6	mg/L

TEST REPORT FOR AS 4020(INT)-1994

CLAUSE 7 - GROWTH OF MICRO-ORGANISMS

REPORT NUMBER 4007/92.395

SAMPLE REFERENCE 6854.97

DATE 12/06/97

TEST METHOD AS 4020(Int)-1994 GROWTH OF AQUATIC MICRO-ORGANISMS IN EXTRACT (APPENDIX D)

RESULTS

		Negative Control	Test
Pseudomonas aeruginosa per 100 mL	- 1	0	6
	- 2	0	0
	- 3	0	0
Coliform organisms per 100 mL	- 1	0	0
	- 2	0	0
	- 3	0	0

EVALUATION The numbers of microorganisms and the Mean Dissolved Oxygen Difference in the extracts did not exceed the maxima allowed, and accordingly the product passed the requirements of clause 7 at an exposure of 14000 mm^2 per Litre.

NUMBER OF SAMPLES One sample was tested.

R.P WALTERS - SENIOR MICROBIOLOGIST
APPROVED SIGNATORY

TEST REPORT FOR AS 4020(INT)-1994

CLAUSE 8.1 - EXTRACTION OF SUBSTANCES OF CONCERN TO PUBLIC HEALTH - NON METALLIC SUBSTANCES

TESTING LABORATORY	INSTITUTE OF MEDICAL AND VETERINARY SCIENCE FROME ROAD, ADELAIDE, SOUTH AUSTRALIA (NATA Registration No. 2348)
REPORT NUMBER	4007/92.395
SAMPLE REFERENCE	6854.97
DATE	12/06/97
TRADE NAME OF PRODUCT	FORMULATION 17.
COMPOSITION OF PRODUCT	PVC & ETHYLENE INTERPOLYMER ALLOY.
PRODUCT MANUFACTURER	NYLEX FILM AND FABRICS, A DIVISION OF NYLEX CORPORATION LTD., NEPEAN HIGHWAY, MENTONE, VIC.
SUBMITTING ORGANISATION	NYLEX FILM AND FABRICS, A DIVISION OF NYLEX CORPORATION LTD., NEPEAN HIGHWAY, MENTONE, VIC.
USE OF PRODUCT	TANK LINER.
DESCRIPTION OF SAMPLE	Each sample consisted of a panel of dimensions 75 x 100 mm providing a total surface area of 15000 mm^2. Extracts were prepared using 1000 mL volumes of water.
TEST METHOD	AS 4020(Int)-1994 CYTOTOXICITY OF SUBSTANCES THAT LEACH FROM PRODUCTS (APPENDIX E)
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 8.1 relating to cytotoxicity when tested at an exposure of 15000 mm^2 per Litre.
NUMBER OF SAMPLES	One sample was tested.

T. KOK - PRINCIPAL SCIENTIST
APPROVED SIGNATORY

TEST REPORT FOR AS 4020(INT)-1994

CLAUSE 8.1 - EXTRACTION OF SUBSTANCES OF CONCERN TO PUBLIC HEALTH - NON METALLIC SUBSTANCES

TESTING LABORATORY	AUSTRALIAN WATER QUALITY CENTRE PORT WAKEFIELD ROAD, BOLIVAR, SOUTH AUSTRALIA (NATA Registration No. 1390)
REPORT NUMBER	4007/92.395
SAMPLE REFERENCE	6854.97
DATE	12/06/97
TRADE NAME OF PRODUCT	FORMULATION 17.
COMPOSITION OF PRODUCT	PVC & ETHYLENE INTERPOLYMER ALLOY.
PRODUCT MANUFACTURER	NYLEX FILM AND FABRICS, A DIVISION OF NYLEX CORPORATION LTD., NEPEAN HIGHWAY, MENTONE, VIC.
SUBMITTING ORGANISATION	NYLEX FILM AND FABRICS, A DIVISION OF NYLEX CORPORATION LTD., NEPEAN HIGHWAY, MENTONE, VIC.
USE OF PRODUCT	TANK LINER.
DESCRIPTION OF SAMPLE	Each sample consisted of a panel of dimensions 75 x 100 mm providing a total surface area of 15000 mm^2. Extracts were prepared using 1000 mL volumes of water.
TEST METHOD	AS 4020(Int)-1994 GENETIC TOXICITY OF SUBSTANCES THAT LEACH FROM PRODUCTS (APPENDIX F)
SCALING FACTOR	Not applied.

TEST REPORT FOR AS 4020(INT)-1994

CLAUSE 8.1 - EXTRACTION OF SUBSTANCES OF CONCERN TO PUBLIC HEALTH - NON METALLIC SUBSTANCES

REPORT NUMBER 4007/92.395

SAMPLE REFERENCE 6854.97

DATE 12/06/97

TEST METHOD AS 4020(Int)-1994 GENETIC TOXICITY OF SUBSTANCES THAT LEACH FROM PRODUCTS (APPENDIX F)

RESULTS

BACTERIAL STRAIN	S9	NUMBER OF REVERTANTS per PLATE BLANK	TEST	POSITIVE CONTROLS	
				NPD (20ug)	2 - AF (20ug)
Salmonella typhimurium TA98	-	35, 37, 34	32, 35, 31	1840,1870,1730	-
Mean ± Standard deviation		35.3 ± 1.5	32.7 ± 2.1	1813.3 ± 73.7	-
	+	31, 36, 48	32, 34, 34	-	1560,1660,1700
Mean ± Standard deviation		38.3 ± 8.7	33.3 ± 1.2	-	1640.0 ± 72.1
				AZIDE (1.0ug)	2 - AF (20ug)
Salmonella typhimurium TA100	-	133,119,113	126,149,119	1260,1130,965	-
Mean ± Standard deviation		121.7 ± 10.3	131.3 ± 15.7	1118.3 ± 147.8	-
	+	158,121,141	134,156,156	-	1590,1570,1680
Mean ± Standard deviation		140.0 ± 18.5	148.7 ± 12.7	-	1613.3 ± 58.6
				MITOMYCIN C (2ug)	
monella typhimurium TA102	-	190,228,238	189,200,214	1850,2020,2260	
Mean ± Standard deviation		218.7 ± 25.3	201.0 ± 12.5	2043.3 ± 206.0	
	+	231,233,231	220,240,218	-	
Mean ± Standard deviation		231.7 ± 1.2	258.0 ± 12.2	-	

COMMENTS

S9 was used as a metabolic activator. NPD (4-nitro-*o*-phenylenediamine), Azide, and Mitomycin C are specific positive controls for strains TA 98, TA 100 and TA 102 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 8.1 relating to genetic toxicity when tested at an exposure of 15000 mm^2 per Litre.

NUMBER OF SAMPLES One sample was tested.

R.P WALTERS - SENIOR MICROBIOLOGIST
APPROVED SIGNATORY

TEST REPORT FOR AS 4020(INT)-1994

CLAUSE 8.2 - EXTRACTION OF SUBSTANCES OF CONCERN TO PUBLIC HEALTH - METALS

TESTING LABORATORY	AUSTRALIAN WATER QUALITY CENTRE PORT WAKEFIELD ROAD, BOLIVAR, SOUTH AUSTRALIA (NATA Registration No. 1115)
REPORT NUMBER	4007/92.395
SAMPLE REFERENCE	6854.97
DATE	12/06/97
TRADE NAME OF PRODUCT	FORMULATION 17.
COMPOSITION OF PRODUCT	PVC & ETHYLENE INTERPOLYMER ALLOY.
PRODUCT MANUFACTURER	NYLEX FILM AND FABRICS, A DIVISION OF NYLEX CORPORATION LTD., NEPEAN HIGHWAY, MENTONE, VIC.
SUBMITTING ORGANISATION	NYLEX FILM AND FABRICS, A DIVISION OF NYLEX CORPORATION LTD., NEPEAN HIGHWAY, MENTONE, VIC.
USE OF PRODUCT	TANK LINER.
DESCRIPTION OF SAMPLE	Each sample consisted of a panel of dimensions 75 x 100 mm providing a total surface area of 15000 mm^2. Extracts were prepared using 1000 mL volumes of water.
TEST METHOD	AS 4020(Int)-1994 THE EXTRACTION OF METALS (APPENDIX G)
SCALING FACTOR	Not applied.

METHODS OF ANALYSIS-

All methods used to determine concentrations of metals are based on those described in the 17th edition of *Standard Methods for the Examination of Water and Wastewater* published by the American Public Health Association (1989). The methods have been adapted for the instrumentation in use at the Australian Water Quality Centre.

Concentrations of the metals described in Table 1 of the AS-4020(Int)-1994 are determined as follows:

Antimony, Arsenic, Mercury and Selenium by vapour generation and atomic absorption spectrophotometry (Varian).

Cadmium, Lead, Nickel and Silver using graphite furnace and atomic absorption spectrophotometry (Varian).

Barium and Chromium by inductively coupled plasma atomic emission spectrometry.

TEST REPORT FOR AS 4020(INT)-1994

8.2 - EXTRACTION OF SUBSTANCES OF CONCERN TO PUBLIC HEALTH - METALS

NUMBER 4007/92.395

REFERENCE 6854.97

12/06/97

THOD AS 4020(Int)-1994 THE EXTRACTION OF METALS (APPENDIX G)

	Limit of Detection ug/L	Blank ug/L	Test 1 ug/L	Test 2 ug/L	Max. Allowed ug/L
Antimony	1.0	< 1.0	< 1.0	< 1.0	10.
Arsenic	1.0	< 1.0	< 1.0	< 1.0	50.
Barium	5.0	< 5.0	< 5.0	< 5.0	1000.
Cadmium	0.2	< 0.2	< 0.2	< 0.2	5.
Chromium	5.0	< 5.0	< 5.0	< 5.0	50.
Lead	1.0	< 1.0	2.0	1.0	50.
Mercury	0.1	< 0.1	0.1	< 0.1	1.
Nickel	1.0	< 1.0	< 1.0	< 1.0	50.
Selenium	1.0	< 1.0	< 1.0	< 1.0	10.
Silver	0.2	< 0.2	< 0.2	< 0.2	10.

ION The results from the 24hr extraction complied with the requirements of clause 8.2 when tested at an exposure of 15000 mm^2 per Litre.

OF SAMPLES Two samples tested -one extract prepared from each.

A.GLATZ - SENIOR CHEMIST
APPROVED SIGNATORY

END OF REPORT