



Accreditation No: 15773

Accredited for compliance with
ISO/IEC 17025 - Testing

Philmac Pty Ltd
53-59 Deeds Road
North Plympton, 5038
AU

Client Account Number: A00782418Y1XAP
Eurofins Quote Number: NSF6PH24007601

Eurofins Sample Number NJ24AA6383-1

Original Received Date:	12-Jun-2024
Description:	15mm Straight Coupling; RXC15; Compression fitting
Lot Number:	785459
Containers Submitted:	1 Box(es)

Analysis

AS/NZS 4020:2018 Compliance Testing

Refer to Attachment # 1

NATA accreditation is associated with the testing methods to which the GLP report relates.

Subcontracted Testing (if performed) is not covered under NATA Accreditation 15773.

Method: AS/NZS 4020, Appendix A and in-house method TMP 191100 & TMP 191101

Analysis Date: 18-Jun-2024

Sample Compliance Assessment

NJ24AA6383-1 meets the requirement(s) for all listed test(s) where specifications were applied.

Supplemental Information

Accredited for compliance with ISO/IEC 17025:2017- Testing. NATA Accreditation Number 15773.

Contracted Company: Eurofins ams Laboratories (Sydney)

179 Magowar Road, Girraween, NSW 2145 Australia
SampleReceiptAMS@eurofins.com

TGA Licence No: MI-2021-LI-08995-1 APVMA Licence No: 6241

Results are related to Sample(s) identified in this report. Samples were tested as received. Specifications (if) reported are directed and/or provided by the client. The report is not to be reproduced except in full without the approval of the laboratory.

Questions about this report should be directed to your project manager or the general email listed above.



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1. SAMPLE INFORMATION:

Methodology: AS/NZS 4020, *Appendix A* and in-house method TMP-191100 & TMP-191101

Cross Reference No.:	Not Applicable
Interim Reporting:	Not Applicable
Batch No./ Manufacturing Date:	785459 / 16 May 2024
Product Manufacturer:	Philmac Pty Ltd 47-59 Deeds Rd North Plympton, South Australia 5037
Sampling Organisation:	Philmac Pty Ltd
General Composition:	Refer to Section 9
Product Use:	In-Line
Temperature Range:	Information not Provided
Sample selection for tests:	As provided by the Submitting Organisation

Sample storage conditions:	Prepared and controlled as per AS/NZS 4020, <i>Appendix A</i>
Extracts:	Prepared as per AS/NZS 4020, <i>Appendices C, D, E, F, G & H</i>
Testing procedure:	Testing is based on the recommended 'in-the-product' exposure of 1 x 15mm Straight Coupling, RXC15 with a scaling factor of 0.01 (1/100) applied at (20 ± 2)°C to cover a cold water application up to <40°C. Refer to Section 9 for product details.
Volume retention:	~14mL

2. SUMMARY OF RESULTS:

APPENDIX	RESULTS
C - TASTE (CLAUSE 6.2)	PASSED at 'in-the-product' exposure with a scaling factor of 0.01 (1/100) applied
D – APPEARANCE (COLOUR AND TURBIDITY) (CLAUSE 6.3)	PASSED at 'in-the-product' exposure with a scaling factor of 0.01 (1/100) applied
D – APPEARANCE (ORGANIC COMPOUNDS) (CLAUSE 6.8)	PASSED at 'in-the-product' exposure with a scaling factor of 0.01 (1/100) applied
E - GROWTH OF AQUATIC MICRO-ORGANISMS (CLAUSE 6.4)	PASSED at 'total immersion' exposure
F - CYTOTOXIC ACTIVITY (CLAUSE 6.5)	PASSED at 'in-the-product' exposure with a scaling factor of 0.01 (1/100) applied
G - MUTAGENIC ACTIVITY (CLAUSE 6.6)	PASSED at 'in-the-product' exposure with a scaling factor of 0.01 (1/100) applied
H - METALS (CLAUSE 6.7)	PASSED at 'in-the-product' exposure with a scaling factor of 0.01 (1/100) applied

Based on completion and evaluation of all tests on 29/08/2024, the product, 15mm Straight Coupling, RXC15; fully complied with the test requirements of AS/NZS 4020:2018 to cover a cold water application up to <40°C, at the recommended 'in-the-product' exposure with a scaling factor of 0.01 (1/100) applied at (20 ± 2)°C.

Testing although determined by the relevant product Standard, is generally recognised for up to 5 years by the certifying body, providing the testing procedures remain the same, and the background information on all wetted parts and the product are adequately documented. Also, the results stated in the report relate to the samples of the product submitted for testing. Any changes in the material formulation and supplier/manufacturer of all wetted items, the 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, and re-testing may be required before this actual time frame, governed by the completion and evaluation date.

3. TASTE:

Methodology: AS/NZS 4020, *Appendix C* and in-house method TMP-191130.

Exposure: 'in-the-product'

Extraction temperature: (20 ± 2)°C **Scaling factor:** 0.01 (1/100) **Number of Panellists:** 5

No. of samples for Chlorine-free extract: 1 **No. of samples for Chlorinated extract:** 1

Description	Extract	Test Water	Taste (+ / -)	Taste Description (No. of tasters)	Test Dilution *(Taste intensity)
Test Blank	First 24h	Chlorine-free	NA	NA	NA
	Final 9-day	Chlorine-free	-	-	-
Sample	First 24h	Chlorine-free	NA	NA	NA
	Final 9-day	Chlorine-free	-	-	-
Test Blank	First 24h	Chlorinated	NA	NA	NA
	Final 9-day	Chlorinated	-	-	-
Sample	First 24h	Chlorinated	NA	NA	NA
	Final 9-day	Chlorinated	-	-	-

+ Taste detected - No taste detected NA Not applicable

AS/NZS 4020 test requirement: Minimum of 4 tasters with no discernible taste at the first 1/2 dilution.

Figure in brackets is the number of panellists detecting a taste at this dilution.

Note:

1. Tasters are given a 14-point scale to describe its intensity, with minimum of 1 as extremely weak, and maximum of >14 as extremely strong. An average of all tasters represents taste intensity.
2. First extract becomes final extract.

EVALUATION:

On the basis of these results the samples of this product referred to in this report have complied with the test requirements of AS/NZS 4020:2018, Taste; *Appendix C*.

4.B. APPEARANCE: ORGANIC COMPOUNDS:

Methodology: AS/NZS 4020, Appendix D and in-house methods TMP-191140 and TMP-191106.

Refer to Section 4.A for testing conditions (Exposure, Extraction temperature, Scaling factor & No. of Samples tested)

Extract: 9-day

No.	Organic Compound	Drinking Water Guideline Maximum Allowable Concentration mg/L (ppm)	Limit of Reporting mg/L (ppm)	Test Blank mg/L (ppm)	Sample Extract I mg/L (ppm)	FINAL RESULT I mg/L (ppm)
Volatiles						
1	¹ Benzene	0.001*	0.001	<0.001	<0.001	<0.001
2	¹ Carbon tetrachloride	0.003*	0.001	<0.001	<0.001	<0.001
3	¹ Chlorobenzene	0.3*	0.00001	<0.00001	<0.00001	<0.00001
4	¹ 1,2-dichloroethane	0.003*	0.00001	<0.00001	<0.00001	<0.00001
5	¹ 1,1-dichloroethene	0.03*	0.001	<0.001	<0.001	<0.001
6	¹ Cis 1,2-dichloroethene	0.06*	0.00001	<0.00001	<0.00001	<0.00001
7	¹ Trans 1,2-dichloroethene	0.06*	0.001	<0.001	<0.001	<0.001
8	¹ Dichloromethane (methylene chloride)	0.004*	0.00002	<0.00002	<0.00002	<0.00002
9	¹ Ethylbenzene	0.3*	0.001	<0.001	<0.001	<0.001
10	¹ Styrene (Vinylbenzene)	0.03*	0.001	<0.001	<0.001	<0.001
11	¹ Tetrachloroethene	0.05*	0.00002	<0.00002	<0.00002	<0.00002
12	¹ Toluene	0.8*	0.001	<0.001	<0.001	<0.001
13	¹ Trichlorobenzenes	0.03*	0.0005	<0.0005	<0.0005	<0.0005
14	¹ Trichloroethene	0.02**	0.00001	<0.00001	<0.00001	<0.00001
15	¹ Vinyl chloride	0.0003*	0.00005	<0.00005	<0.00005	<0.00005
16	¹ Xylene	0.6*	0.003	<0.003	<0.003	<0.003
Volatiles (Trihalomethanes)						
17	¹ Bromodichloromethane***	0.06**	0.001	0.004	0.015	0.011
18	¹ Bromoform***	0.1*	0.001	<0.001	<0.001	<0.001
19	¹ Chloroform***	0.25*	0.005	0.016	0.054	0.038
20	¹ Dibromochloromethane***	0.15**	0.001	<0.001	<0.001	<0.001
Chlorinated Hydrocarbons						
21	¹ Hexachlorobutadiene	0.0007*	0.0005	<0.0005	<0.0005	<0.0005
Phthalate Esters						
22	¹ Plasticisers di(2-ethylhexyl) (Phthalate)	0.009**	0.0005	<0.0005	<0.0005	<0.0005
Phenols (Halogenated)						
23	¹ 2-chlorophenol	0.3*	0.00001	<0.00001	<0.00001	<0.00001
24	¹ 2, 4-dichlorophenol	0.2*	0.00001	<0.00001	<0.00001	<0.00001
25	¹ 2, 4, 6-trichlorophenol	0.02*	0.00002	0.00010	0.00010	<0.00002
26	¹ Pentachlorophenol	0.0009*	0.0002	<0.0002	<0.0002	<0.0002
Semivolatiles						
27	¹ 1,2-dichlorobenzene	1.5*	0.0005	<0.0005	<0.0005	<0.0005
28	¹ 1,4-dichlorobenzene	0.04*	0.0005	<0.0005	<0.0005	<0.0005
29	¹ Benzo-(a)-pyrene (PAHs)	0.00001*	0.00001	<0.00001	<0.00001	<0.00001
Epichlorohydrin by EPA 524.2 Modified						
30	² Epichlorohydrin	0.0005 *	0.0004	<0.0004	<0.0004	<0.0004
Nitrosamines						
31	³ N-Nitrosodimethylamine (NDMA)	0.0001*	0.00001	<0.00001	0.00007	0.00007

4.B. APPEARANCE: ORGANIC COMPOUNDS CONT.

*Australian Drinking Water Guideline **NZ Drinking Water Guideline

NOTE:

¹ Test extractions were performed by Eurofins ams Laboratories Pty. Ltd. The test extracts were subsequently subcontracted to Eurofins | Environment Testing, NATA Accreditation No. 1261, Report No. 1115332-W. In-house Method based on USEPA 522, 8260D & 8270E.

² (Epichlorohydrin) Test extractions were performed by Eurofins ams Laboratories Pty. Ltd. The test extracts were subsequently subcontracted to Eurofins | Eaton, Report No. 380-105987-1. In-house Method based on USEPA 524.2 Modified.

³ Test extractions were performed by Eurofins ams Laboratories Pty. Ltd. The test extracts were subsequently subcontracted to Sydney Water, NATA Accreditation No. 63, Report No. 308364. In-house Method based on USEPA 521.

EVALUATION:

On the basis of these results the samples of this product referred to in this report have complied with the test requirements of with the test requirements of AS/NZS 4020:2018, Appearance (Organic Compounds); *Appendix D.*

5. GROWTH OF AQUATIC MICRO-ORGANISMS:

Methodology: AS/NZS 4020, *Appendix E* and in-house method TMP-191150.

Incubation temperature: (30 ± 1)°C

Exposure: 'total immersion'

No. of samples tested: 1

Component Name	Testing Exposure	Inoculum (mL)	* MEAN DISSOLVED OXYGEN DIFFERENCE (MDOD) in mg/L
Wetted components of 15mm Straight Coupling, RXC15	1 of each / 1L	100	<0.01
Negative Reference Control (glass plate)	~15,000mm ² / 1L	100	0.38
Positive Reference Control (paraffin waxed glass plate)	~15,000mm ² / 1L	100	6.86
Test Blank	Blank / 1L	100	6.85 in mg/L as mean dissolved oxygen

NA Not applicable

* Difference from test blank and represents mean of five readings (weeks 5, 5 ½, 6, 6 ½ & 7)

AS/NZS 4020 test sample requirements: Less than or equal to 2.4 for MDOD

In-house Method based on APHA 4500 OG.

EVALUATION:

On the basis of these results the samples of this product referred to in this report have complied with the test requirements of AS/NZS 4020:2018, Growth of Aquatic Micro-organisms; *Appendix E*.

6. CYTOTOXIC ACTIVITY:

Methodology: AS/NZS 4020, *Appendix F* and in-house method TMP-191160.

Exposure: 'in-the-product'

Extraction temperature: (20 ± 2)°C

Scaling factor: 0.01 (1/100)

Extracts: 24h, 48h & 72h

No. of samples tested: 1

The test sample extracts from the product, as well as the test blank (test water) were used to prepare a nutrient growth medium, subsequently utilised to grow a monkey kidney cell line (VERO ATCC CCL 81).

Microscopic Examination	Test Sample Extract (24h, 48h and 72h)	Test Blank (24h, 48h and 72h)
Cell Morphology:	Satisfactory	Satisfactory
Monolayer: Confluence/Healthy Growth as ~%	100%	100%

Cytotoxicity was detected with Zinc Sulphate, used as a positive control and analysed at 0.4mM of Zinc. Water for Irrigation was included with the test blank as negative control.

AS/NZS 4020 test sample requirements: 1) Non-cytotoxic response- confluent monolayer similar to test blank.

2) Cytotoxic response- irregularly shaped cells & cell death similar to positive control 0.4mM Zinc Sulphate.

EVALUATION:

On the basis of these results the samples of this product referred to in this report have complied with the test requirements of AS/NZS 4020:2018, Cytotoxic Activity; *Appendix F*.

7. MUTAGENIC ACTIVITY:

Methodology: AS/NZS 4020, *Appendix G* and in-house method TMP-191170.

Exposure: 'in-the-product'

Extraction temperature: (20 ± 2)°C

Extract: 24h

Scaling factor: 0.01 (1/100)

No. of samples tested: 1

Without S9-mix (-S9)	<i>Salmonella typhimurium</i> TA98	Mean	Std Deviation	With S9-mix (+S9)	<i>Salmonella typhimurium</i> TA98	Mean	Std Deviation
-ve c	24 22 34	27	6	-ve c	45 30 28	34	9
2,4-DNPH	154 150 134	146	11	2-AA	185 168 184	179	10
T.BLK	27 27 24	26	2	T.BLK	27 35 32	31	4
Sample	20 20 25	22	3	Sample	20 27 31	26	6

Without S9-mix (-S9)	<i>Salmonella typhimurium</i> TA102	Mean	Std Deviation	With S9-mix (+S9)	<i>Salmonella typhimurium</i> TA102	Mean	Std Deviation
-ve c	432 592 368	464	115	-ve c	400 512 512	475	65
2,4-DNPH	992 848 1008	949	88	Benzo(a)pyrene	848 1056 992	965	107
T.BLK	624 672 688	661	33	T.BLK	608 544 640	597	49
Sample	480 560 496	512	42	Sample	592 624 592	603	18

+ S9 = * Metabolic Activator
 2,4-DNPH = 2, 4-dinitrophenylhydrazine
 TA98 & TA102: Base-pair substitution type
 NA = Not applicable
 2-AA = 2-aminoanthracene
 > = greater than
 -ve c = Negative Control

AS/NZS 4020 test sample requirements: (The differences in the mean number of revertants between either of the negative controls and test sample extracts should not exceed two standard deviations (for triplicate analysis)).

Positive response: If mean revertants for sample extract outside the range of spontaneous revertants for test strain.

EVALUATION:

On the basis of these results the samples of this product referred to in this report have complied with the test requirements of AS/NZS 4020:2018, Mutagenic Activity; *Appendix G*.

8. METALS:

Methodology: AS/NZS 4020, *Appendix H* and in-house methods TMP-191180 and TMP-191230.

Exposure: 'in-the-product'

Extraction temperature: (20 ± 2)°C

Scaling factor: 0.01 (1/100)

Extracts: 9-day

No. of samples for I: 1

No. of samples for II: 1

Element	AS/NZS 4020: Maximum Allowable Concentration mg/L (ppm)	Limit of Reporting mg/L (ppm)	Test Blank mg/L (ppm)	Sample Extract I mg/L (ppm)	Sample Extract II mg/L (ppm)	FINAL RESULT I mg/L (ppm)	FINAL RESULT II mg/L (ppm)
Aluminium ¹ (Al)	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Antimony ¹ (Sb)	0.003	0.001	0.004	<0.001	<0.001	<0.001	<0.001
Arsenic ¹ (As)	0.01	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium ¹ (Ba)	0.7	0.001	0.020	0.019	0.019	<0.001	<0.001
Boron ¹ (B)	1.4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Cadmium ¹ (Cd)	0.002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chromium ¹ (Cr)	0.05	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper ¹ (Cu)	2	0.001	0.28	0.30	0.30	0.02	0.02
Iron ¹ (Fe)	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Lead ¹ (Pb)	0.01	0.001	0.002	0.004	0.004	0.002	0.002
Manganese ¹ (Mn)	0.1	0.005	<0.005	<0.005	0.005	<0.005	<0.005
Mercury ¹ (Hg)	0.001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum ¹ (Mo)	0.05	0.002	0.002	<0.002	<0.002	<0.002	<0.002
Nickel ¹ (Ni)	0.02	0.001	<0.001	0.001	<0.001	0.001	<0.001
Selenium ¹ (Se)	0.01	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver ¹ (Ag)	0.1	0.001	<0.001	<0.001	<0.001	<0.001	<0.001

< = less than mg/L = milligram per litre ¹ = ICPMS – In-house Method Code: LTM-MET 3040

First extract becomes final extract. NA = Not applicable

Test extractions were performed by Eurofins ams Laboratories Pty. Ltd. The test extracts were subsequently subcontracted to Eurofins | Environment Testing for assessment (NATA Accreditation No. 1261), Report No. 1115546-W. In-house Method based on US EPA Method 3010A & US EPA Method 6020B.

EVALUATION:

On the basis of these results the samples of this product referred to in this report have complied with the test requirements of AS/NZS 4020:2018, Metals; *Appendix H*.

9.I. PHOTO OF TEST SAMPLE:



9.II. BILL OF MATERIAL (BOM):

Part #	Description of Component	Description of Sub-components (assemblies)	Material Composition	Total Surface Area (mm ²)	Wetted Surface Area (mm ²)	Raw Material Manufacturer	Component Manufacturer
M-RXC-B15	15mm RX Coupling Body		R244G POLYCOMP 6027 9367 BLACK		3840		Philmac
M-SCS15	15mm Compression Sleeve		R700G				Philmac
M-SLR15	15mm Locking Ring		R700G				Philmac
M-SCN15	15mm Compression Nut		R244G POLYCOMP 6027 9367 BLACK				Philmac
SOR16X3	15mm COMP O-RING 16 x 3						

9.III. TECHNICAL DRAWING:

ITEM NO.	RXP Code	Part Name	QTY.
1	M-RXC-B15	Body Straight Coupling 15mm	1
2	M-SCS15	Sleeve Compression 15mm	2
3	M-SLR15	Locking Ring Compression 15mm	2
4	M-SCN15	Nut Compression 15mm	2
5	SOR16x3	O-Ring 16x3mm	2
6	155RX	RX LABEL - BARCODE (54x12)	1

Not shown:
 -Other Labels.
 -Bag.
 -Box.

Drawing Name: **RXC15**

RXC15 Coupling Straight 15mm

9413069002017

Date: 30/06/2019

Drawn by: DJR

Checked by: DJR

Scale: 1:1

Unit: mm

AS 150

Material: **Material <not specified>**

by allaxis

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