



TEST REPORT

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Ontario, California – USA 91761-2816

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<http://www.iapmortl.org>

Report Number: 2295-19249

Project Number: 32689-002

Report Issued: August 28, 2019

Report To: ASSE International

Tested For: Ningbo Eastpure Environmental Technology
Room 707 Langmudasha Bldg
Baishalu Street
Cixi City, Ningbo, Zhejiang China

Code/Standard: NSF/ANSI 42 - 2018, NSF International Standard / American National Standard – Drinking Water Treatment Units- Aesthetic Effects

Product(s) Tested: Model: MP99

Test Date(s): August 13,2019-August 19,2019

Test Location: IAPMO 5001 East Philadelphia Ontario CA 91761

Conclusion: The sample identified above COMPLIED with the requirements described in section 5.4.2, Hydrostatic Test and with section 5.4.4 Cycle test of NSF/ANSI 42-2018.

Report Status: **COMPLIED**

Tested By:

Victor Soria
Technician

Reviewed / Submitted

Sal Aridi
Director

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1.0 INTRODUCTION

The objective of this test project was to determine if the unit model MP99 met the Structural Integrity requirements of Section 5 of NSF/ANSI 42-2018.

2.0 TEST PROCEDURES

All tests and evaluations were conducted in accordance with the written procedures specified in the referenced standard.

3.0 TEST PROGRAM

Tested as a complete system with a vessel diameter < 8 in per Table 5.1 of NSF/ANSI 42-2018, clauses tested / evaluated:

- Section 5.4.2: Hydrostatic pressure test
- Section 5.4.4: Cycle Test

4.0 TEST SPECIMENS

The test specimens were shipped to the IAPMO R&T Lab in Ontario, CA by Ningbo and received in good condition on August 12, 2019.

5.0 STRUCTURAL PERFORMANCE

5.1.1 General

The purpose for testing structural integrity performance is to evaluate the materials, design, and fabrication quality of the complete water treatment system.

5.2 Acceptance

Each test of structural integrity (cyclic pressure and hydrostatic pressure) shall be performed on a separate system. If the complete water treatment system is tested, a separate test of the system pressure vessel is not required.

Complete systems, pressure vessels, and components shall be tested for structural integrity in accordance with 5.4 at the pressures specified in Table 5.1. When more than one pressure is specified in table 5.1, testing shall be done at the higher pressure.

Complete systems, pressure vessels, and components shall be watertight when tested for structural integrity under 5.4.

NOTE — Weepage shall be considered acceptable at the beginning of a test, but weepage shall not begin in the middle of a test.

5.3 Working Pressure

5.3.1 The pressure vessel(s) and all other components of the water treatment system that are subjected to line pressure constructed to maintain structural integrity at the pressure of 690 kPa (100 psi) or the maximum working pressure, whichever is greater.

5.3.2 Portable Systems not designed for direct connection to a pressurized supply line shall be designed and constructed to maintain structural integrity under the maximum pressure of the intended end-use.

5.4.1 Structural integrity test methods

5.4.1 Apparatus

An enclosure shall be provided for each system tested to prevent injury to personnel or property damage if the system fails. An apparatus that may be used for the cyclic and hydrostatic test is shown schematically in figure 1 of the standard. Pressure measuring instruments shall have a precision and accuracy of 2% at the point of measurement.

5.4.2 Hydrostatic pressure test – COMPLIED

Systems designed to operate only at atmospheric pressure shall be exempt from the hydrostatic pressure test but shall be watertight in normal use. Components downstream of the system on/off valve that are not subject to pressure under the off mode, and that either contain no media subject to plugging or are not designed to contain media, shall be exempt from the hydrostatic pressure test but shall be watertight in normal use. Components that are downstream of the system on/off valve but upstream of media subject to clogging shall meet the requirements of this section. The following procedure shall be used for the hydrostatic pressure testing of other complete systems:

- a) Water at a temperature of 13 to 24 °C (55 to 75 °F) was used. The test water was adjusted to a temperature at which condensation did not form on the surface of the test unit.
- b) The inlet of the test system was connected to the apparatus as shown in figure 1 of the standard. The system was in conformance with its normal state of use, with the option of plugging drain lines.
- c) The test system was filled with water and flushed to purge air from the system. The system outlet was closed, and the control valve was placed in the service position. All parts of the unit, including inlet and outlet fittings that may be subject to line pressure in normal operation, were pressurized.
- d) The hydrostatic pressure was raised at a constant rate so that the test pressure specified in Table 5.1 was reached within 5 minutes. The rate of pressure increase did not exceed 690 kPa (100 psig) per second.
- e) The test pressure should have maintained for 15 minutes. The system was inspected periodically through the end of the test period to check whether the system is watertight.

Sample	Testing Criteria (Table 5.1)	Hydrostatic Test Pressure (psi)	Result
MP99	300 psi	300	Pass

5.4.3 Hydrostatic Pressure Test – Metallic Pressure Vessels (NOT APPLICABLE)

5.4.4 Cycle test – **Complied**

The following procedure shall be used for the cyclic testing:

- Water at a temperature of 20 ± 3 °C (68 ± 5 °F) was used throughout the test. The test water was adjusted to a temperature at which condensation did not form on the surface of the test unit.
- The inlet of the test system was connected to the test apparatus as shown in figure 1. The system was in conformance with its normal state of use, with the option of plugging drain lines.
- The test system was filled with water and flushed to purge air from the system. All parts of the unit, including inlet and outlet fittings that may be subject to line pressure in normal operation, were pressurized
- The counter was set to zero, or its initial reading recorded and pressure cycling initiated. The pressure rise was ≥ 1 s and the pressure in the test unit was configured to return to < 14 kPa (2 psig) before the initiation of another cycle.
- The pressure was cycled as specified in Table 5.1 of the reference standard. The system was inspected periodically through the end of the test period to check whether the system was watertight.

Sample	Testing Criteria (Table 5.1)	Cyclic Test Pressure (psi)	Result
MP99	100,000 cycles at 0 to 150 psi	0-150	Pass

6.0 PHOTOGRAPHS

Unit tested



Alkaline Zinc-Rich Filter Element Test Report

Report Number: X-YSP-20250324-HO

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2、Functional detection method:

2.1 Install two carbon rods in the filter housing and connect them to the RO water purifier.

2.2 After rinsing with 10 L of water, collect samples and begin calculating the flow rate.

2.3 During the water supply process, the flow rate was maintained at 1.6 ± 0.1 L/min.

2.4 The sampling test points are 500L, 1000L, 1500L, and 2000L.

Order number	Test item		Test result					Evaluation criterion	Judge
	Detection Indicator	Unit	Raw water	3 Total water volume (L)					
				500	1000	1500	2000		
1	Rate of flow	L/min	1.6±0.1						
2	Temperature	℃	19±1						
3	TDS	mg/L	3	12	11	10	10		
4	Kalium	mg/L	0.09	0.22	0.11	0.12	0.14		
5	Calcium	mg/L	0.02	3.02	2.72	2.45	2.32		
6	Sodium	mg/L	1.33	1.75	1.59	1.56	1.66		
7	Magnesium	mg/L	0.00	0.03	0.01	0.01	0.01		
8	pH	Not have	6.28	9.28	8.04	7.40	7.06	>7.0	Qualified
9	Zinc	mg/L	0.00	0.42	0.30	0.24	0.26	Increase ≥ 0.2	Qualified

Order number	Test item		Test result					Evaluation criterion	Judge
	Detection Indicator	Unit	Raw water	4 Total water volume (L)					
				500	1000	1500	2000		
1	Rate of flow	L/min	1.6±0.1						
2	Temperature	℃	19±1						
3	TDS	mg/L	3	13	12	12	11		
4	Kalium	mg/L	0.09	0.18	0.12	0.17	0.11		
5	Calcium	mg/L	0.02	3.02	3.03	2.94	2.61		
6	Sodium	mg/L	1.33	1.61	1.55	1.68	1.63		
7	Magnesium	mg/L	0.00	0.02	0.01	0.01	0.01		
8	pH	Not have	6.28	9.52	8.28	7.70	7.32	>7.0	Qualified
9	Zinc	mg/L	0.00	0.26	0.26	0.26	0.30	Increase ≥ 0.2	Qualified



TEST REPORT

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Report Number: 2295-20386 **Project No.:** 33449

Report Issued: February 13, 2020

Report To: ASSE International

Tested for: Ningbo Eastpure Environmental Technology
Room707, Langmudasha Building
Baishalu Street, Cixi City
Ningbo, Zhejiang, China
Contact: David Han

Source of Samples: The samples were shipped to IAPMO R&T Lab from Ningbo Eastpure Environmental Technology and received in good condition on December 19, 2019.

Date of Evaluation: January 21, 2020 to February 13, 2020

Location of testing: IAPMO R&T Lab, 5001 East Philadelphia St, Ontario, CA 91761

Sample Description: Model MP99 Without Media

Scope of Evaluation: The purpose of this testing was to determine if the Ningbo Eastpure Environmental Technology Model MP99 Without Media met the requirements of NSF/ANSI 42-2017, Section 4

Conclusion: **Samples tested of the Ningbo Eastpure Environmental Technology Model MP99 Without Media COMPLIED with NSF/ANSI 42-2017, section 4 following the recommended tests and protocol as described in Initial Toxicological Evaluation of Ningbo Eastpure Environmental Technology's MP99 DWTU: P-139733. Please refer to pages 2 to 9 for more detailed findings.**

Evaluated/Tested by,

Lin Nguyen, Senior Chemist, Supervisor

Reviewed by,

Michael N. Briggs, Director, Analytical Lab

Primary Standards: NSF/ANSI 42-2017, Section 4

Section 4: Materials:

Sample Preparation:

Samples was flushed for ten (10) minutes according to the manufacture instruction. Seven (7) samples without media were exposed to exposure water for metals and organic evaluation. Volume of sample is 608 ml

Conditioning and Exposure

Conditioning and exposure were conducted as described in NSF/ANSI 42-2017, section 4.2.3. The samples were exposed to extraction water for conditioning and exposure for metal and organic evaluations.

Normalization

Normalized Concentration = Lab Concentration

Extraction Water

The extraction water was prepared as described in NSF/ANSI 42-2017, section 4.2.2

Collection/preservation of extraction water

Immediately following the exposure period, extraction waters collected for analysis were poured into previously prepared sample containers for storage until analysis, as specified in annex B, Section B.6 and Table B8.

Extracts for metal analysis were acidified with nitric acid as specified in EPA protocols.

Samples for volatile organic contaminants were preserved with sodium thiosulfate and HCl as outlined in EPA 524.2 protocol.

Samples for semi-volatile organic contaminants were preserved with sodium thiosulfate sulfuric acid as described in EPA 525.2 and SW-846 protocol.

Samples for formaldehyde were preserved with copper sulfate and ammonium chloride as specified in EPA method 556

Evaluation of Contaminant Concentrations

Metal and organic contaminants, were determined as single point determinations. The normalized results were compared to MCL, TAC, or action level as applicable.

Analytical methodology

Metal determinations:	EPA 200.8, Metal determinations by iCAPQ ICP/MS
Volatile organic contaminants:	EPA 524.2, Volatile organic determinations by Purge and Trap, GCMS
Semi-volatile contaminants:	EPA 525.2 SW-846 8270, Semi-volatile organic determinations by liquid/liquid extraction followed by GC/MS determinations.

Formaldehyde

EPA 556 Determination of Carbonyl Compounds in Drinking Water by Chromatography with Electron Capture Detection. Modified for GC/MS SIM mode detection

Analytical Instrumentation

Metal determinations:

Thermo Electron iCAP Q ICP/MS

Volatile organic determinations:

Thermo Electron ISQ 7000 GC/MS with Tekmar Lumin/Aquatek Purge and Trap system.

Semi-volatile organic determinations:

Thermo Electron ISQ 7000 GC/MS with AI/AS1310 auto sampler

Formaldehyde determinations

Thermo Electron ISQ 7000 GC/MS (SIM) AI/AS1310 auto sampler

Discussion:

Testing was performed to the testing suggestions reported in the Initial Toxicological Evaluation of Ningbo Eastpure Environmental Technology's MP99 DWTU: P-139733

To verify compliance, exposure data was collected for metals and organic analyses

The normalized concentration of all the metals were all below the MCL, TAC, AL levels set in the Standard.

VOCs were measured by GC/MS. Acetone and carbon disulfide were the only target analytes were observed in the resulting volatile GC/MS analysis at normalized concentrations well below the MCL, TAC, AL levels set in the standard. No non-target analytes were observed in the resulting volatile GC/MS chromatogram.

Semi-volatile organic compounds were monitored by GC/MS. 2-Phenyl-2-propanol, acetophenone, bisphenol A, caprolactam, diethylphthalate and phenol were the only target analyte observed in the resulting semi-volatile GC/MS analysis at normalized concentrations well below the MCL, TAC, AL levels set in the standard. Two (2) non target analytes were observed in the resulting of semi-volatile GC/MS chromatogram. One (1) of these compounds were identified as 2-Hydroxypropyl methacrylate (CAS#923-26-2) at normalized concentration well below the MCL, TAC, AL levels set in the standard.

Metal Evaluation:

		Analytical Data	Static Normalized	Test Methods
Metal	MCL (ug/L)	(ug/L)	(ug/L)	
Aluminum	9000	71.53	71.53	EPA 200.8
Antimony	6	ND (< 0.06)	ND (< 0.06)	EPA 200.8
Arsenic	10	ND (< 0.08)	ND (< 0.08)	EPA 200.8
Barium	2000	ND (< 0.04)	ND (< 0.04)	EPA 200.8
Beryllium	4	ND (< 0.19)	ND (< 0.19)	EPA 200.8
Bismuth	100	ND (< 0.06)	ND (< 0.06)	EPA 200.8
Cadmium	5	ND (< 0.05)	ND (< 0.05)	EPA 200.8
Chromium	20	ND (< 0.07)	ND (< 0.07)	EPA 200.8
Copper	1300	0.31	0.31	EPA 200.8
Mercury	2	ND (< 0.01)	ND (< 0.01)	EPA 200.8
Nickel	100	0.30	0.30	EPA 200.8
Selenium	50	ND (< 0.14)	ND (< 0.14)	EPA 200.8
Strontium	4000	0.26	0.26	EPA 200.8
Thallium	2	ND (< 0.05)	ND (< 0.05)	EPA 200.8
Tin	4000	ND (< 0.26)	ND (< 0.26)	EPA 200.8
Zinc	3000	6.68	6.68	EPA 200.8
Lead	5	0.22	0.22	EPA 200.8

Test Result of Organics:

Target Analyte	Test Method	Result	Normalized
	EPA 524.2		
Volatile Organic Compounds:	C.A.S Number	(ug/L)	Result (ug/L)
Difluorodichloromethane	75-71-8	ND < 0.3	ND < 0.3000
Chloromethane	74-87-3	ND < 0.2	ND < 0.2000
Vinylchloride	75-01-4	ND < 0.2	ND < 0.2000
1,3-Butadiene	106-99-0	ND < 0.3	ND < 0.3000
Bromomethane	74-83-9	ND < 0.3	ND < 0.3000
Chloroethane	75-00-3	ND < 2.0	ND < 2.0000
Trichlorofluoromethane	75-69-4	ND < 0.3	ND < 0.3000
1,1-Dichloro-1-fluoroethane	1717-00-6	ND < 0.3	ND < 0.3000
1,1-Dichloroethene	75-35-4	ND < 0.3	ND < 0.3000
Acetone	67-64-1	77.19	77.190
Carbon disulfide	75-15-0	19.64	19.640
Dichloromethane	75-09-2	ND < 0.2	ND < 0.2000
t-Butanol	75-65-0	ND < 6.0	ND < 6.0000
trans-1,2-Dichloroethene	156-60-5	ND < 0.3	ND < 0.3000
Methyl Tert Butyl Ether	1634-04-4	ND < 0.3	ND < 0.3000
Acrylonitrile	107-13-1	ND < 0.3	ND < 0.3000
1,1-Dichloroethane	75-34-3	ND < 0.3	ND < 0.3000
Chloroprene	126-99-8	ND < 0.3	ND < 0.3000
Vinyl Acetate	108-05-4	ND < 0.3	ND < 0.3000
2,2-Dichloropropane	594-20-7	ND < 0.3	ND < 0.3000
cis-1,2-Dichloroethene	156-59-2	ND < 0.3	ND < 0.3000
2-Butanone	78-93-3	ND < 0.3	ND < 0.3000
Methyl Acrylate	96-33-3	ND < 0.3	ND < 0.3000
Bromochloromethane	74-97-5	ND < 0.3	ND < 0.3000
Tetrahydrofuran	109-99-9	ND < 0.3	ND < 0.3000
Chloroform	67-66-3	ND < 0.1	ND < 0.1000
1,1,1-Trichloroethane	71-55-6	ND < 0.3	ND < 0.3000
Carbon tetrachloride	56-23-5	ND < 0.3	ND < 0.3000
1,1-Dichloropropene	563-58-3	ND < 0.3	ND < 0.3000
Benzene	71-43-2	ND < 0.3	ND < 0.3000
1,2-Dichloroethane	107-06-2	ND < 0.3	ND < 0.3000
isopropylacetate	108-21-4	ND < 0.3	ND < 0.3000
Trichloroethene	79-01-6	ND < 0.3	ND < 0.3000
Ethyl-acrylate	140-88-5	ND < 0.1	ND < 0.1000
1,2-Dichloropropane	78-87-5	ND < 0.2	ND < 0.2000
Dibromomethane	74-95-3	ND < 0.3	ND < 0.3000
Methyl Methacrylate	80-62-6	ND < 0.2	ND < 0.2000
Bromodichloromethane	75-27-4	ND < 0.1	ND < 0.1000
cis-1,3-Dichloropropene	10061-01-5	ND < 0.1	ND < 0.1000
4-methyl-2-pentanone	108-10-1	ND < 0.3	ND < 0.3000
Toluene	108-88-3	ND < 0.3	ND < 0.3000
trans-1,3-Dichloropropene	10061-02-6	ND < 0.1	ND < 0.1000
Ethyl Methacrylate	97-63-2	ND < 0.3	ND < 0.3000

Test Result of Organics:

Target Analyte	Test Method	Result	Normalized
Volatile Organic Compounds:	EPA 524.2	(ug/L)	Result (ug/L)
Tetrachloroethylene	127-18-4	ND < 0.3	ND < 0.3000
1,1,2-Trichloroethane	79-00-5	ND < 0.2	ND < 0.2000
1,3-Dichloropropane	142-28-9	ND < 0.3	ND < 0.3000
Dibromochloromethane	124-48-1	ND < 0.3	ND < 0.3000
Butyl-acetate	123-86-4	ND < 0.2	ND < 0.2000
1,2-Dibromoethane	106-93-4	ND < 0.2	ND < 0.2000
Chlorobenzene	108-90-7	ND < 0.3	ND < 0.3000
Ethylbenzene	100-41-4	ND < 0.3	ND < 0.3000
1,1,1,2-Tetrachloroethane	630-20-6	ND < 0.3	ND < 0.3000
m,p-Xylene	108-38-3/106-42-3	ND < 0.3	ND < 0.3000
o-Xylene	95-47-6	ND < 0.3	ND < 0.3000
Styrene	100-42-5	ND < 0.3	ND < 0.3000
n-Butyl acrylate	141-32-2	ND < 0.3	ND < 0.3000
Tribromomethane	75-25-2	ND < 0.1	ND < 0.1000
Isopropylbenzene	98-82-8	ND < 0.3	ND < 0.3000
Cyclohexanone	108-94-1	ND < 20.0	ND < 20.0000
Bromobenzene	108-86-1	ND < 0.3	ND < 0.3000
1,1,2,2-Tetrachloroethane	79-34-5	ND < 0.3	ND < 0.3000
propylbenzene	103-65-1	ND < 0.3	ND < 0.3000
1,2,3-Trichloropropane	96-18-4	ND < 0.3	ND < 0.3000
2-Chlorotoluene	95-49-8	ND < 0.3	ND < 0.3000
1,3,5-Trimethylbenzene	108-67-8	ND < 0.3	ND < 0.3000
4-Chlorotoluene	106-43-4	ND < 0.3	ND < 0.3000
tert-Butylbenzene	98-06-6	ND < 0.3	ND < 0.3000
1,2,4-Trimethylbenzene	95-63-6	ND < 0.3	ND < 0.3000
sec-Butylbenzene	135-98-8	ND < 0.3	ND < 0.3000
1,3-Dichlorobenzene	541-73-1	ND < 0.3	ND < 0.3000
bis(2-chloroethyl)ether	111-44-4	ND < 0.3	ND < 0.3000
p-Isopropyltoluene	99-87-6	ND < 0.3	ND < 0.3000
1,4-Dichlorobenzene	106-46-7	ND < 0.3	ND < 0.3000
2-Ethyl-1-hexanol	104-76-7	ND < 0.3	ND < 0.3000
n-Butylbenzene	104-51-8	ND < 0.3	ND < 0.3000
1,2-Dichlorobenzene	90-50-1	ND < 0.2	ND < 0.2000
1,2-Dibromo-3-chloropropane	96-12-8	ND < 0.3	ND < 0.3000
1,2,4-Trichlorobenzene	120-82-1	ND < 0.3	ND < 0.3000
Hexachlorobutadiene	87-68-3	ND < 0.3	ND < 0.3000
Naphthalene	91-20-3	ND < 0.3	ND < 0.3000
1,2,3-Trichlorobenzene	87-61-6	ND < 0.3	ND < 0.3000
No non-target analytes observed in the chromatogram			

Test Result of Organics :

Target Analyte	EPA 8270/EPA 625	Result	Normalized
Semi-Volatile Organics	C.A.S. Number	(ug/L)	Result (ug/L)
1,1-(1,4-Phenylene)bis-ethanone	1009-61-6	ND < 0.50	ND < 0.500
1,2,4-Trichlorobenzene	110-88-3	ND < 0.50	ND < 0.500
1,2-Dichlorobenzene	95-50-1	ND < 0.50	ND < 0.500
1,3,5-Trioxane	120-82-1	ND < 0.50	ND < 0.500
1,3-Dichlorobenzene	541-73-1	ND < 0.50	ND < 0.500
1,4-Dichlorobenzene	106-46-7	ND < 0.50	ND < 0.500
2,3,4,6-Tetrachlorophenol	58-90-2	ND < 0.20	ND < 0.200
2,4,5-Trichlorophenol	95-95-4	ND < 1.00	ND < 1.000
2,4,6-Trichlorophenol	88-06-2	ND < 1.00	ND < 1.000
2,4-Dichlorobenzoic acid	50-84-0	ND < 20.00	ND < 20.000
2,4-Dichlorophenol	120-83-2	ND < 0.50	ND < 0.500
2,4-Dimethylphenol	105-67-9	ND < 0.50	ND < 0.500
2,4-Dinitrophenol	51-28-5	ND < 0.50	ND < 0.500
2,4-Dinitrotoluene	121-14-2	ND < 0.50	ND < 0.500
2,6-Dichlorophenol	87-65-0	ND < 0.50	ND < 0.500
2,6-Dinitrotoluene	606-20-2	ND < 0.80	ND < 0.800
2,6-Di-tert-butyl-4-methoxyphenol	489-01-0	ND < 0.50	ND < 0.500
2-Chlorophenol	95-57-8	ND < 0.50	ND < 0.500
2-Chloronaphthalene	91-58-7	ND < 0.50	ND < 0.500
2-Ethylhexylmethacrylate	688-84-6	ND < 2.00	ND < 2.000
2-Methylnaphthalene	91-57-6	ND < 0.50	ND < 0.500
2-Methylphenol	95-48-7	ND < 1.00	ND < 1.000
2-Nitrophenol	88-75-5	ND < 1.00	ND < 1.000
2-Phenyl 2-Propanol	617-94-7	4.15	4.149
3,3'Dichlorobenzidine	91-94-1	ND < 0.50	ND < 0.500
3,4--Methylphenol	108-39-4, 106-44-5	ND < 0.50	ND < 0.500
4,6-Dinitro-2-methylphenol	534-52-1	ND < 10.00	ND < 10.000
4-Bromophenylpheyether	101-55-3	ND < 0.50	ND < 0.500
4-Chloro-3-methylphenol	59-50-7	ND < 0.50	ND < 0.500
4-Chlorophenyphenylether	7005-72-3	ND < 0.50	ND < 0.500
4-Nitrophenol	100-02-7	ND < 0.90	ND < 0.900
4-tert-butylphenol	98-54-4	ND < 0.50	ND < 0.500
7,9-Di-tert-butyl-1-oxaspiro(4,5)deca-6,9-diene-2,8-dione	82304-66-3	ND < 0.50	ND < 0.500
a,a,a',a'-Tetramethyl-1,3-benzenedimethanol	1999-85-5	ND < 0.50	ND < 0.500
a,a,a',a'-Tetramethyl-1,4-benzenedimethanol	2948-46-1	ND < 0.50	ND < 0.500
Acenaphthene	83-32-9	ND < 0.50	ND < 0.500
Acenaphthylene	208-96-8	ND < 0.20	ND < 0.200
Acetophenone	98-86-2	0.96	0.957
Anthracene	120-12-7	ND < 0.20	ND < 0.200
Azobenene	103-33-3	ND < 0.50	ND < 0.500
Benzo(a)anthracene	56-55-3	ND < 0.50	ND < 0.500
Benzo(a)pyrene	50-32-8	ND < 0.20	ND < 0.200
Benzo(b)fluroranthene	205-99-2	ND < 0.50	ND < 0.500

Test Result of Organics:

Target Analyte	EPA 8270/EPA 625	Result	Normalized
Semi-Volatile Organics	C.A.S.Number	(ug/L)	Result (ug/L)
Benzo(ghi)perylene	191-24-2	ND < 0.50	ND < 0.500
Benzo(k)fluoranthene	207-08-9	ND < 0.50	ND < 0.500
Benzoic_acid	65-85-0	ND < 20.00	ND < 20.000
Benzothiazole	95-16-9	ND < 1.00	ND < 1.000
Benzyl_Alcohol	100-51-6	ND < 0.50	ND < 0.500
Benzylbutylphthalate	85-68-7	ND < 0.50	ND < 0.500
Bis(2-choroethoxy) methane	111-91-1	ND < 0.50	ND < 0.500
Bis(2-choroethyl) ether	111-44-4	ND < 0.50	ND < 0.500
Bis(2-choroisopropyl) ether	108-60-1	ND < 0.50	ND < 0.500
Bis(2-ethylhexyl)adipate	103-23-1	ND < 0.50	ND < 0.500
Bis-2-ethylhexylphthate	117-81-7	ND < 0.60	ND < 0.600
Bisphenol A	80-05-7	3.43	3.432
Caprolactam	105-60-2	1.05	1.048
Carbaryl	63-25-2	ND < 0.50	ND < 0.500
Carbazole	86-74-8	ND < 0.50	ND < 0.500
Chrysene	218-01-9	ND < 0.50	ND < 0.500
Dibenz(ah)anthracene	53-70-3	ND < 0.50	ND < 0.500
Dibutoxyethoxyethyl adipate	141-17-3	ND < 2.00	ND < 2.000
Diethylphthalate	84-66-2	0.53	0.526
Dimethylphthalate	131-11-3	ND < 0.50	ND < 0.500
Di-n-butylphthalate	84-74-2	ND < 3.00	ND < 3.000
Di-n-octylphthalate	117-84-0	ND < 0.50	ND < 0.500
Dinoseb	88-85-7	ND < 0.50	ND < 0.500
Fluoranthene	206-44-0	ND < 0.20	ND < 0.200
Fluorene	86-73-7	ND < 0.50	ND < 0.500
Hexachlorobenzene	118-74-1	ND < 0.70	ND < 0.700
Hexachlorobutadiene	87-68-3	ND < 0.50	ND < 0.500
Hexachlorocyclopentadiene	77-47-4	ND < 0.50	ND < 0.500
Hexachloroethane	67-72-1	ND < 0.50	ND < 0.500
Indene(123cd)pyrene	193-39-5	ND < 0.50	ND < 0.500
isophorone	78-59-1	ND < 0.50	ND < 0.500
Methyl-4-methoxysalicylate	5446-02-6	ND < 0.50	ND < 0.500
Naphthalene	91-20-3	ND < 0.50	ND < 0.500
Nitrobenzene	98-95-3	ND < 0.50	ND < 0.500
N-Nitrosodimethylamine	62-75-9	ND < 0.72	ND < 0.720
N-Nitrosodi-n-butylamine	924-16-3	ND < 0.50	ND < 0.500
N-Nitrosodi-n-propylamine	621-64-7	ND < 0.50	ND < 0.500
N-Nitrosodiphenylamine	86-30-6	ND < 0.50	ND < 0.500
Pentachlorophenol	87-86-5	ND < 0.50	ND < 0.500
Phenanthrene	85-01-8	ND < 0.30	ND < 0.300
Phenol	108-95-2	0.93	0.926
Phenyl sulfone	127-63-9	ND < 0.50	ND < 0.500
Pyrene	129-00-0	ND < 0.50	ND < 0.500
Solfolane	126-33-0	ND < 2.00	ND < 2.000
Tributylacetylctrate	77-90-7	ND < 0.50	ND < 0.500

Semi-volatile TIC Compounds:

RT	CAS	ID	Estimated Concentration	Normalized Concentration
8.27	923-26-2	2-Hydroxypropyl methacrylate	3.97	3.970
16.65		Unknown	18.66	18.660

RT 16.65: Apparent MW 281. The probability of fit between the spectrum of the compound observed at 16.65 and the spectrum of the best fit chemical in the reference library is 67.088 which is less than the threshold value above which the ID is considered acceptable of 70%. The forward and reverse fits are below 900 showing differences in the 2 spectra. The relative abundance of the mass fragments to the base or most abundant mass fragment is different for the spectrum of the compound at 16.65 than for the spectrum of the best fit compound in the reference library. The spectrum of the compound at 16.65 contains mass fragments not observed in the spectrum of the best fit compound in the reference library. The spectrum of the best fit compound in the reference library contains mass fragments that are not observed in the spectrum of the compound at 16.65. The characteristic isotopic abundance for chlorine and bromine are not observed in the spectrum of the compound at 16.65. This compound is not identified.

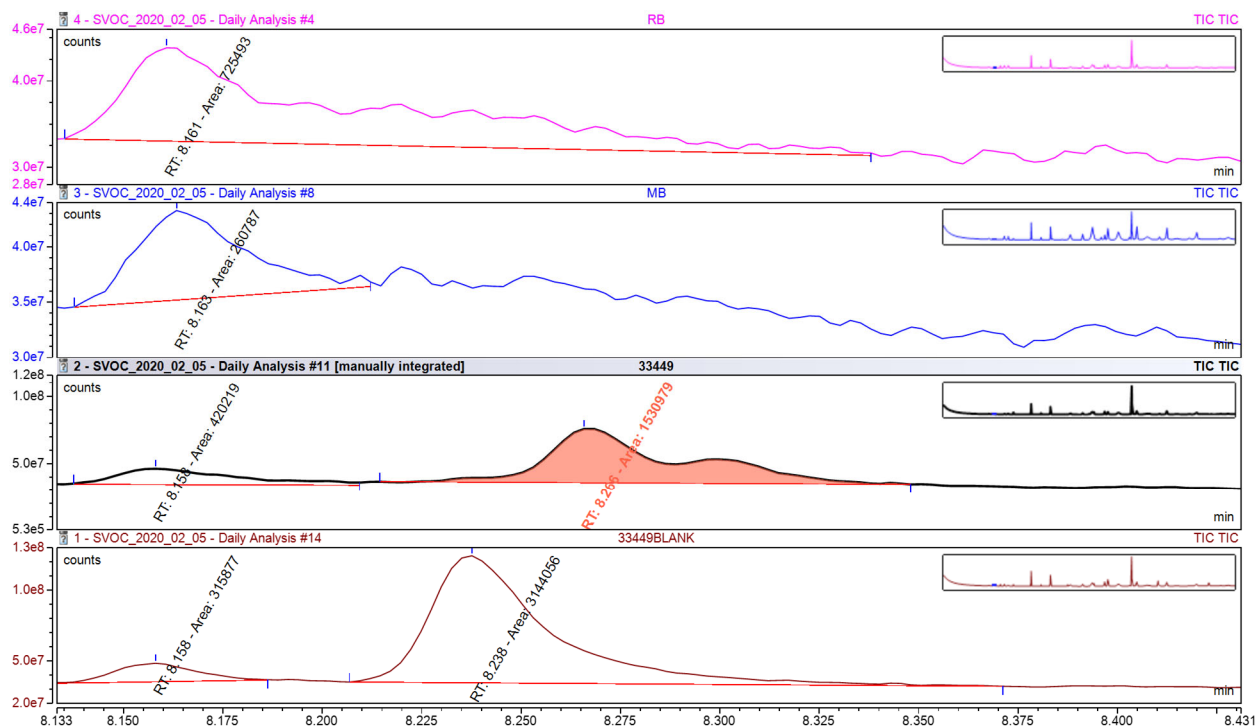
Formaldehyde: 5.41 ug/L

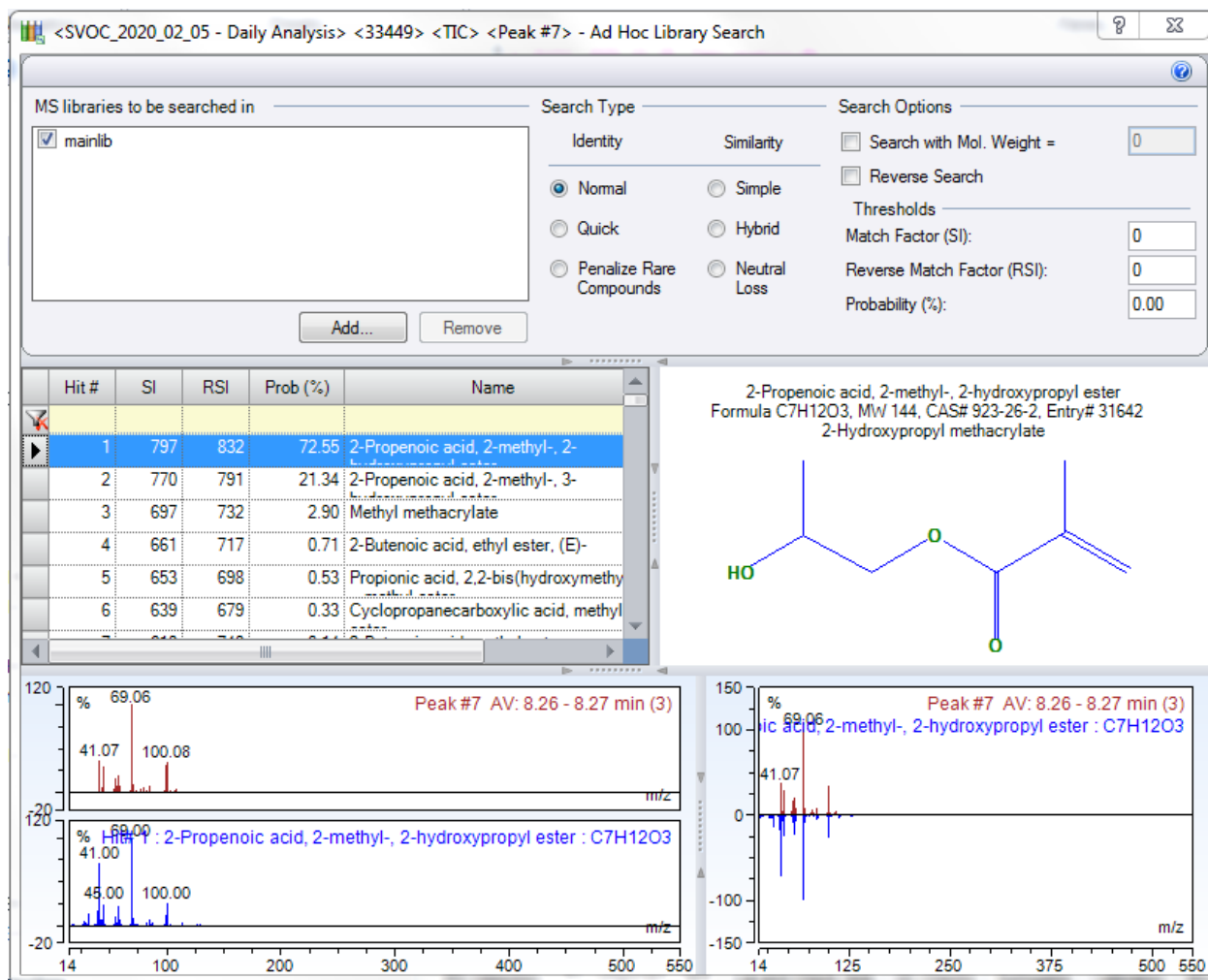
Attachments

Figure 1 Assembly tested.

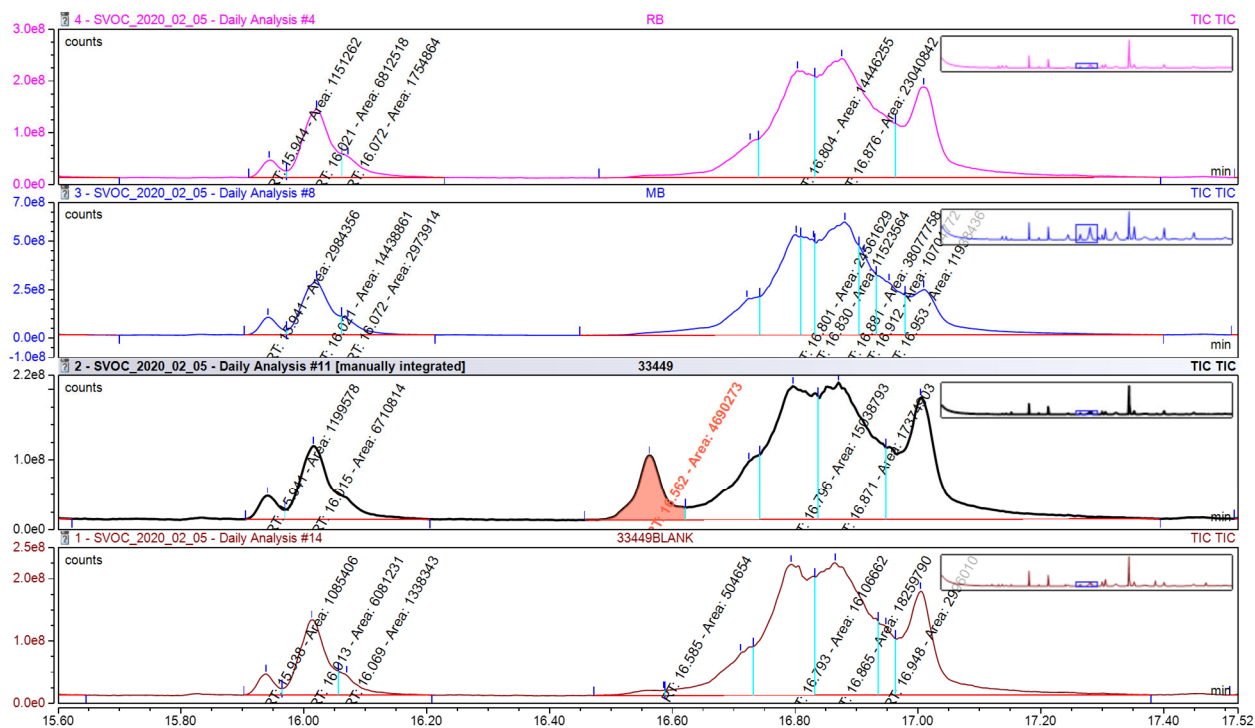


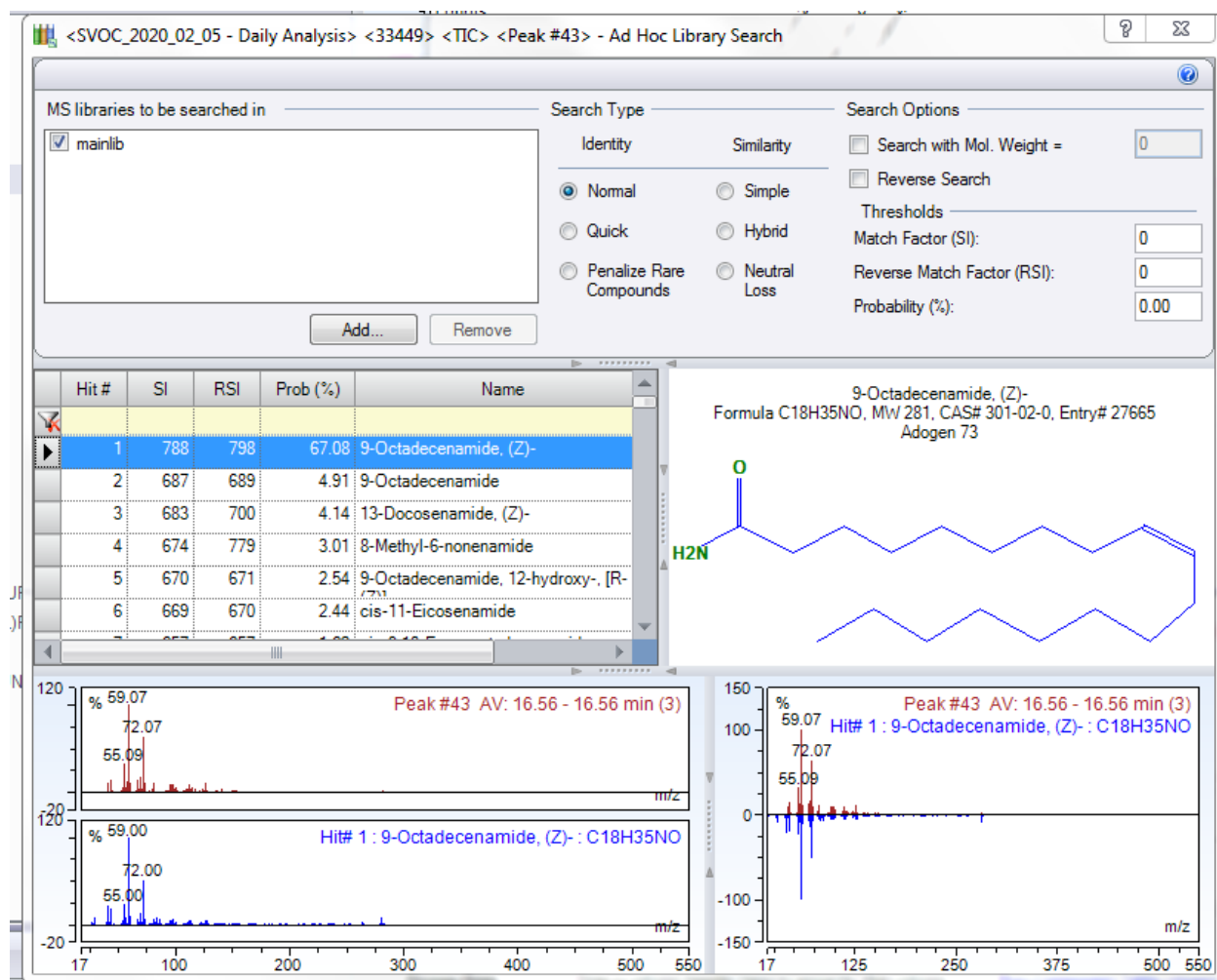






Retention time (min) Est. Amount (ug/L)
8.27 3.97





MW 154

Retention time (min) Est. Amount (ug/L)

16.56

18.66

IAPMO RESEARCH AND TESTING, INC.

5001 E. Philadelphia Street, Ontario, CA 91761-2816 • (909) 472-4100 • Fax (909) 472-4244 • www.iapmort.org



CERTIFICATE OF LISTING

IAPMO Research and Testing, Inc. is a product certification body in which its product certification system includes inspection and testing of samples taken from the supplier's stock or from the market or a combination of both to verify compliance to the requirements of applicable codes and standards. This activity is coupled with periodic surveillance of the supplier's factory and/or warehouses as well as the assessment of the supplier's Quality Assurance System. This listing is subject to the conditions set forth in the characteristics below and is not to be construed as any recommendation, assurance or guarantee by IAPMO Research and Testing, Inc. of the product acceptance by Authorities Having Jurisdiction.

Issued to:

FRIZZLIFE INC

777 N DOWNING ST
DENVER, CO 80218

Product:

Drinking Water Treatment Unit - Aesthetic Effects

Products are in compliance with the following code(s):

Uniform Plumbing Code (UPC®)

Products are certified to the following standard(s):

NSF/ANSI 42-2021

File Number: W-11830

Effective Date: May 2020

December, 12

Revised Date: 2022

Void After Date: May 2025*


Chairman, Product Certification Committee




Chief Technical Service Officer

* This certificate is not evidence of current listing. To verify listing status, visit the IAPMO R&T Product Listing Directory at pld.iapmo.org

This listing period is based upon the last date of the month indicated on the Effective Date and Void After Date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of the Product Certification Committee, or any evidence of non-compliance with applicable codes and standards or of inferior workmanship, may be deemed sufficient cause for revocation of this listing. Production of or reference to this form for advertising purposes may be made only by specific written permission of IAPMO Research and Testing, Inc. Any alteration of this certificate could be grounds for revocation of the listing. This document shall be reproduced in its entirety.

IAPMO RESEARCH AND TESTING, INC.

CERTIFICATE OF LISTING



Issued To: FRIZZLIFE INC

File Number: W-11830

Product: Drinking Water Treatment Unit - Aesthetic Effects

Effective Date: May 2020

Revised Date: December, 12 2022

Void After: May 2025

This certificate is not evidence of current listing. To verify listing status, visit the IAPMO R&T Product Listing Directory at pld.iapmo.org

Identification:

Product shall bear: The certified company name. The model number or trade designation. The appropriate certification mark. Product markings may be permanently fixed on the system or may be included as part of product literature or packaging.

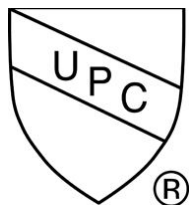
Characteristics:

Point-of-use and point-of-entry systems intended to reduce substances affecting the aesthetic quality of the water or to add chemicals for scale control, or both. Certification demonstrates that all materials safety and structural integrity (as applicable) requirements have been met. To be installed in accordance with the manufacturer's installation instructions and the requirements of the latest edition of the Uniform Plumbing Code®. Point-of-Entry products certified to this standard also comply with the health effects materials safety requirements listed in NSF/ANSI 61.

Products listed on this certificate have been tested by an IAPMO R&T recognized laboratory. This recognition has been granted based upon the laboratory's compliance to the applicable requirements of ISO/IEC 17025.

IAPMO RESEARCH AND TESTING, INC.

CERTIFICATE OF LISTING



Issued To: FRIZZLIFE INC

File Number: W-11830

Product: Drinking Water Treatment Unit - Aesthetic Effects

Effective Date: May 2020

Revised Date: December 12, 2022

Void After Date: May 2025

This certificate is not evidence of current listing. To verify listing status, visit the IAPMO R&T Product Listing Directory at pld.iapmo.org

Product Type	Plumbed-In			
Model Number	Replacement Component	Capacity (Gallons)	Flow Rate (GPM)	Reduction Claims
MP99	FZ-2	800	0.5	Chlorine, Taste & Odor, Particulate Class 1
MK99	FZ-2	800	0.5	Chlorine, Taste & Odor, Particulate Class 1
MS99	FZ-2	800	0.5	Chlorine, Taste & Odor, Particulate Class 1
MV99	FZ-2	800	0.5	Chlorine, Taste & Odor, Particulate Class 1
SP99	M3001, M3002, and M3003	945	1.5	Chlorine, Particulate Class I
SK99	M3001, M3002, and M3003	945	1.5	Chlorine, Particulate Class I

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CERTIFICATE OF LISTING

IAPMO Research and Testing, Inc. is a product certification body in which its product certification system includes inspection and testing of samples taken from the supplier's stock or from the market or a combination of both to verify compliance to the requirements of applicable codes and standards. This activity is coupled with periodic surveillance of the supplier's factory and/or warehouses as well as the assessment of the supplier's Quality Assurance System. This listing is subject to the conditions set forth in the characteristics below and is not to be construed as any recommendation, assurance or guarantee by IAPMO Research and Testing, Inc. of the product acceptance by Authorities Having Jurisdiction.

Issued to:

FRIZZLIFE INC

777 N DOWNING ST
DENVER, CO 80218

Product:

Water Treatment Product - Health Effects

Products are in compliance with the following code(s):

Uniform Plumbing Code (UPC®)

Products are certified to the following standard(s):

NSF/ANSI 53-2018

File Number: W-11831

Effective Date: May 2020

December, 12

Revised Date: 2022

Void After Date: May 2025*


Chairman, Product Certification Committee




Chief Technical Service Officer

* This certificate is not evidence of current listing. To verify listing status, visit the IAPMO R&T Product Listing Directory at pld.iapmo.org

This listing period is based upon the last date of the month indicated on the Effective Date and Void After Date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of the Product Certification Committee, or any evidence of non-compliance with applicable codes and standards or of inferior workmanship, may be deemed sufficient cause for revocation of this listing. Production of or reference to this form for advertising purposes may be made only by specific written permission of IAPMO Research and Testing, Inc. Any alteration of this certificate could be grounds for revocation of the listing. This document shall be reproduced in its entirety.

IAPMO RESEARCH AND TESTING, INC.

CERTIFICATE OF LISTING



Issued To: FRIZZLIFE INC

File Number: W-11831

Product: Water Treatment Product - Health Effects

Effective Date: May 2020

Revised Date: December, 12 2022

Void After: May 2025

This certificate is not evidence of current listing. To verify listing status, visit the IAPMO R&T Product Listing Directory at pld.iapmo.org

Identification:

Product shall bear: The certified company name. The model number or trade designation. The appropriate certification mark. Product markings may be permanently fixed on the system or may be included as part of product literature or packaging.

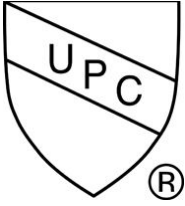
Characteristics:

The point-of-use and point-of-entry systems addressed by this Standard are designed to be used for the reduction of specific substances that may be present in drinking water (public or private) which are considered health hazards. Certification demonstrates that all materials safety and structural integrity (as applicable) requirements have been met. To be used in accordance with the manufacturer's instructions. An elective claim per NSF/ANSI 53 (or P473) is PFOA and PFOS. Levels of PFOA and PFOS vary across different regions. When a product has been certified for PFOA/PFOS, the current acceptance level under NSF/ANSI 53 (or P473) is 70 ppt for both PFOA and PFOS. The combination of PFOS and PFOA cannot exceed the total. Below are specific levels established by specific AHJs: US EPA, Alabama, Alaska, California, Colorado, Connecticut, Florida, Idaho Maine, Massachusetts, Michigan and West Virginia: 70 ppt for both PFOA and PFOS. The combination of PFOS and PFOA cannot exceed the total. Minnesota: 35 ppt for PFOA and 15 ppt for PFOS Nevada: 667 ppt for both PFOA and PFOS. New Hampshire: 12 ppt for PFOA and 15 ppt for PFOS. New Jersey: 14 ppt for PFOA and 13 ppt for PFOS. Vermont: 20 ppt for both PFOA and PFOS. The combination of PFOS and PFOA cannot exceed the total. Canada: 200 ppt for PFOA and 600 ppt for PFOS.

Products listed on this certificate have been tested by an IAPMO R&T recognized laboratory. This recognition has been granted based upon the laboratory's compliance to the applicable requirements of ISO/IEC 17025.

IAPMO RESEARCH AND TESTING, INC.

CERTIFICATE OF LISTING



Issued To: FRIZZLIFE INC

Effective Date: May 2020

File Number: W-11831

Revised Date: December 12, 2022

Product: Water Treatment Product - Health Effects

Void After Date: May 2025

This certificate is not evidence of current listing. To verify listing status, visit the IAPMO R&T Product Listing Directory at pld.iapmo.org

Product Type Plumbed-In

Model Number	Replacement Component	Capacity (Gallons)	Flow Rate (GPM)	Reduction Claims
MP99	FZ-2	800	0.5	Lead, Cyst
MK99	FZ-2	800	0.5	Lead, Cyst
MS99	FZ-2	800	0.5	Lead, Cyst
MV99	FZ-2	800	0.5	Lead, Cyst
SP99	M3001, M3002, M3003	945	1.5	Lead, Cyst
SK99	M3001, M3002, M3003	945	1.5	Lead, Cyst