

Seychelle Environmental Technologies Portable Water Filter Testing Results

This testing information is based on an average of the four laboratories listed below. It should be understood that the results were obtained by using EPA,, ANSI and NSF protocol and methodology. The individual tests are available upon request.

DESCRIPTION OF TESTING METHODS EPA METHOD 608, 524.2, 504, 505, 507, 515.1, 531.1, 624 from EPA publication EPA 600/4-79-020, rev. 3/83, and ANSI/NSF Standard 53. Results are for Nov.-Dec. 2001 and 1996-97.

ORGANIC TESTING: Volatile Organic Compounds – Organochlorine Pesticides

Analyte	Prefilter Concentration	Units	% Reduction
Bromodichlormethane*	250	ug/l	>98.40
Bromoform*	250	ug/l	>99.44
Acetone	250	ug/l	>96.20
Benzene	250	ug/l	>98.84
Chloroform*	250	ug/l	>98.52
Chlorobenzene	250	ug/l	>99.20
Dibromochloromethane*	250	ug/l	>98.08
Carbon Tetrachloride	250	ug/l	>99.56
1,2-1,3-1,4- Dichlorobenzenes	250	ug/l	>99.80
1,1-1,2- Dichloroethane	250	ug/l	>98.24
1,1-1,2-Dichloroethylene	250	ug/l	>98.81
Ethylbenzene	250	ug/l	>99.52
Styrene	250	ug/l	>99.72
MTBE	250	ug/l	>99.80
1,1,1-1,1,2- Trichloroethane	250	ug/l	>99.76
Trichloroethylene	250	ug/l	>99.20
Toluene	250	ug/l	>99.16
Total Xylenes	250	ug/l	>99.61
Gamma BHC (Lindane)	10	ug/l	>98.00
Heptachlor	10	ug/l	>90.90
Endrin	10	ug/l	>99.00
Ethylene Dibromide (EDB)	10	ug/l	>95.00
Dibromochloropropane (DBCP)	10	ug/l	>98.00
Heptachlor -Epoxide	10	ug/l	>99.86
4,4-DDD and DDT	10	ug/l	>98.80
Methoxychlor	10	ug/l	>90.00
PCB's Arochlor- 1260	20	ug/l	>94.50

* Note: Compounds listed are Trihalomethanes

INORGANIC TESTING: MBAS analysis - Trace Metals - Turbidity - Radiological

Analyte	Prefilter Concentration	Units	% Reduction
Aluminum	2	mg/l	>90.00
Arsenic	200	mg/l	>88.90
Cadmium	200	mg/l	>99.50
Chlorine Residual	1.2	mg/l	BDL
Chromium 6	200	mg/l	>99.87
Copper	200	mg/l	>95.00
Fluoride	1	mg/l	>85.50
Lead	200	mg/l	>97.50
Mercury	25	mg/l	>99.60
Nitrate & Nitrite	19.165	mg/l	>88.43
Radon 222	540	pci/l	>99.00
Total Suspended Solids	486	mg/l	>99.00
Turbidity	20	NTU	>85.60

MICROBIOLOGICAL TESTING

Giardia	10 ⁶ /L		>99.99
Cryptosporidium	10 ⁶ /L		>99.9

- 1) National Testing Laboratories - 6555 Wilson Mills Road, Cleveland OH. 44143 1-800-458-3330
- 2) County of Los Angeles, Dept of Agriculture - 11012 Garfield Ave., Southgate CA 90280 562-940-8916
- 3) CTL Environmental Laboratories - 24416 S. Main Street, Carson CA 90745 310-549-6636
- 4) BioVir Laboratories, Inc. 686 Stone Road, Benicia CA 94510 1-800-GIARDIA

About the Laboratory and Testing Methods Used

www.nukepill.com 1-866-283-3986

The laboratories selected to evaluate the water bottle filtration units were accredited by the State of California Department of Health Services Environmental Laboratory Accreditation Program. They were and still are recognized testing facilities in the field of environmental management and assessment.

All laboratories performed their evaluations of the filtration units using strict analytical testing protocols approved by the United States Environmental Protection Agency. These included methods published and promulgated by the USEPA itself such as the 200,300,500, and 600 series methods, and those found in the book of Standard Methods for the Examination of Water and Wastewater published jointly by the American Public Health Association, American Water Works Association, and the Water Environment Federation.

Microbiological Contaminants

The water filtration bottles were tested separately by three laboratories for effectiveness in removing microbiological contamination in water. The filtration unit's ability to remove bacteria (Coliform, fecal Coliform, fecal streptococcus, fecal enterococcus, and *klebsiella terrigena*) and protozoan cysts (*Cryptosporidium parvum* and *Giardia lamblia*) were evaluated using known contaminated wastewater samples or test water seeded with microorganisms selected for evaluation. Laboratory analysis showed the water bottle filtration units to be effective in removing microbiological contaminants at the following rates:

- ≥ 98.2 % for total Coliforms
- ≥ 99.999997 % for *E. coli*
- > 99.999 % for MS-2 Coliphage
- 99.99986 % for *K. terrigena*
- 99.9361 % for *Giardia lamblia* cyst
- 99.97566 % for *Cryptosporidium parvum* cyst

Organic Contaminants

Two California State-Accredited environmental testing laboratories independently evaluated the filtration units for effectiveness in removing organic contaminants. A total of 76 known organic contaminants were tested. The contaminants selected included various groups of synthetic organics including disinfection by-products such as trihalomethanes, gasoline and gasoline additives such as benzene, toluene, ethyl benzene, Xylenes and MTBE, industrial solvents such as TCE and PCE, pesticides such as DDT and 2,4,D, and PCBs. Analytical results showed that the units were effective in removing the contaminants at the following rates:

- for 46 out of 76 - >99 %
- for 12 out of 76 - >98 %
- for 10 out of 76 - >97 %
- for 3 out of 76 - >96 %

for 2 out of 76 - = 95 %
for 1 out of 76 - >94.5 %

The suite of organic contaminants selected for these evaluation by the US-EPA to be widely used commercially and had the potential to contaminate both the surface and groundwater supplies. Although they include a varied mix of compound that had different chemical properties, analysis showed that the filtration units were effective in their removal, regardless. Therefore, it may be assumed that the filtration units would be just as effective in removing a wider range of organic contaminants that were not included in the suite of chemicals evaluated.

Toxic Chemical Elements

Similar to the organic testing, the water bottle filtration units were tested by two California State-Accredited laboratories to determine their effectiveness in removing toxic chemical elements. Seventeen chemical elements identified by the US-EPA to be major pollutants present in our water supplies were selected for evaluation. The water filtration units were found to be most effective in the removal of three most common contaminants: copper, lead and mercury. The filtration units removed greater than 99.5% of these contaminants.

It must be noted that lead is the most prevalent toxic element present in the environment. Until 1986, it was legal in the United States to use lead solder, and lead materials in the construction and repair of plumbing that supplies drinking water¹. The lead contained in these material could potentially leach to the water being supplied. Laboratory analysis demonstrated the water filtration units to be effective in removing 200-2,000 parts per million of lead below detectable levels.

Other Environmental Contaminant

The water bottle filtration units were also evaluated for other known environmental contaminants including radioactive Radon 222, surfactants which are discharges from laundering and household cleaning products, total residual chlorine which is added to the water as disinfectant, and nitrate which is naturally occurring both in surface and groundwater supplies. It is important to note that nitrate poses a particular hazard because in excessive amounts, the chemical can contribute to illness known as methemoglobinemia in infants. The filtration units were effective in removing these contaminants at the following rates:

- > 98 % for Radon 222
- > 87 % for Surfactants
- > 79 % for Total residual chlorine²
- > 84 % for Nitrates²

¹ Dr. David G. Williams, "Water Quality Alert". ALTERNATIVES For the Health Conscious Individual. Vol. 6, No. 24 (June 1997), 188.

² Average result.



February 5, 1997

Mr. Carl Palmer
Global Technology
CA

Dear Carl,

Enclosed in this memo are two tables summarizing the results of our tests on your Pres-2-Pur bottles. These tests were performed with respect to reduction of 1,4 dichlorobenzene and low pH lead reduction. Testing was performed as closely to ANSI/NSF Standard Method 53 as possible. In summary, in testing side-by-side filters, both tests indicated the capability of removing contaminants below MCL levels for at least 200 gallons of throughput.

The first test conducted was the reduction of 1,4 dichlorobenzene. The test was run within the requirements of Standard 53 for testing POU Water Treatment Devices. Table 1 describes the results of this test. The detection limit of the analysis was 2 parts per billion (ppb) of the contaminant. BDL indicates the concentration of the contaminant was below the detection limit. The average temperature of the test was 20°C. The start-up data point was taken before the introduction of the contaminant.

Table 1. Global Technology - 1,4 Dichlorobenzene Test Results - 400 Gallon Test

Throughput	TDS	Post Tank Effluent	SP#5 Effluent	SP#8 Effluent
(gallons)	(ppm)	(ppb)	(ppb)	(ppb)
Start-up	29.5	BDL	BDL	BDL
100	58.5	68.3	BDL	BDL
200	62	60.5	BDL	BDL
300	77	57.6	BDL	BDL
360	79	54.7	BDL	BDL
400	84	53.9	BDL	BDL



BROWARD TESTING LABORATORY

4416 N.E. 11TH AVE., FORT LAUDERDALE, FLORIDA

nukepill.com

Chemical • Biological • Radiological

EMERGENCY PROTECTION SUPPLIES

www.nukepill.com 1-866-283-3986

The second test completed was the low pH lead test. This test had some operational issues. At the beginning of the test the bottle pressure was set to 15 psig (method requires 60 psig). However, in time the filter started to block and the bottle began to expand. It is understood that under normal operating conditions that the bottle pressure would not exceed a few psig. Therefore, the pressure was reduced with a corresponding reduction in the flow rate from an initial rate of 740 ml/min. to a final rate in the range of 250 to 340 ml/min. This pressure reduction occurred at the 100 gallon point of throughput. The data point at 100* is the point at which the pressure was reduced. Table 2 is a summary of the results of the low pH lead reduction test.

Note, Table 2 contains more information about the make-up of the challenge water. This breakout is according to the method reporting requirements. The MDL of the analysis was 0.1 ppb. The results indicate that when the pressure was lowered at the 100 gallon point that the lead content of the effluent water was reduced below the MCL (15 ppb). Under continued throughput, the performance of the bottles continued to improve as the pressure fell.

Table 2. Global Technology - Low pH Lead Test Results - 200 Gallon Test

Throughput	TDS	Alkalinity	Hardness	pH	Temp.	Post Tank Influent	SP#5 Effluent	SP#8 Effluent
(gallons)	(ppm)	(ppm)	(ppm)	(units)	(°C)	(ppb)	(ppb)	(ppb)
Start-up	192	10	28.0	6.7	20.4	111	BDL	BDL
100	103	12	30.0	6.4	20.1	123	15	>30
100*	112	10	26.0	6.4	20.3	100	12	13
200	90	10	29.6	6.4	20.4	151	BDL	BDL

We are continuing to perform tests on you filters and will provide you with similar reports as the work is completed. Please feel free to contact me regarding these results and further testing.

Sincerely,

Dr. Alan A. Leff
Vice President, Operations

TELEPHONE: 1-800-458-3330

FAX: (216) 449-8585

LABORATORY NO. 49605034

Method: EPA 624, Volatile Organic Compounds
Matrix: Filtered Spiked Water **

CLIENT: Global Technology Water

SAMPLE ID: PRES, PURE

LABORATORY ID: 49605034-001

Analyte	Pre-Filtered Spike Concentration (Calculated)	Result Post Filtration	Reporting Limit (µg/l)	%Reduction	Date Analyzed	QC Batch ID
1,1-Dichloroethene	250	ND	1.0	> 99.6	05/23/96	96-05-23A
Acetone	250	9.5	1.0	96.3	05/23/96	96-05-23A
Carbon Disulfide	250	7.4	1.0	97.0	05/23/96	96-05-23A
Ethylene Chloride	250	3.3	1.0	98.7	05/23/96	96-05-23A
trans 1,2-Dichloroethene	250	ND	1.0	> 99.6	05/23/96	96-05-23A
1,1-Dichloroethane	250	2.7	1.0	98.9	05/23/96	96-05-23A
Vinyl Acetate	250	ND	1.0	> 99.6	05/23/96	96-05-23A
n-Butanone	250	5.2	5.0	97.9	05/23/96	96-05-23A
Chloroform	250	2.8	1.0	98.9	05/23/96	96-05-23A
1,1,1-Trichloroethane	250	ND	1.0	> 99.6	05/23/96	96-05-23A
Carbon Tetrachloride	250	1.7	1.0	99.3	05/23/96	96-05-23A
Benzene	250	2.8	1.0	98.9	05/23/96	96-05-23A
1,2-Dichloroethane	250	3.2	1.0	98.7	05/23/96	96-05-23A
Trichloroethene	250	2.7	1.0	98.9	05/23/96	96-05-23A
2,2-Dichloropropane	250	3.3	1.0	98.7	05/23/96	96-05-23A
Bromodichloromethane *	250	3.3	1.0	98.7	05/23/96	96-05-23A
1,1,1,3-Tetrachloroethane	250	2.5	1.0	99.0	05/23/96	96-05-23A
1,1,2-Dichloropropane	250	6.3	5.0	97.5	05/23/96	96-05-23A
Methyl-1-Pentanone	250	2.8	1.0	98.9	05/23/96	96-05-23A
toluene	250	ND	1.0	> 99.6	05/23/96	96-05-23A
trans-1,3-Dichloropropene	250	ND	1.0	> 99.6	05/23/96	96-05-23A
1,1,2-Trichloroethane	250	1.6	1.0	99.4	05/23/96	96-05-23A
trichloroethene	250	6.4	5.0	97.4	05/23/96	96-05-23A
Hexanone	250	2.9	1.0	98.8	05/23/96	96-05-23A
Bromochloromethane *	250	2.5	1.0	99.0	05/23/96	96-05-23A
Chlorobenzene	250	1.9	1.0	99.2	05/23/96	96-05-23A
p-Xylenes	250	1.4	1.0	98.6	05/23/96	96-05-23A
Xylene	250	1.9	1.0	99.2	05/23/96	96-05-23A
styrene	250	1.4	1.0	98.6	05/23/96	96-05-23A
trans-1,2-Dichloroethane	250	2.4	1.0	99.0	05/23/96	96-05-23A
1,2,2-Tetrachloroethane	250	3.1	1.0	98.8	05/23/96	96-05-23A
1,2-Dichlorobenzene	250	3.4	1.0	98.6	05/23/96	96-05-23A
1,4-Dichlorobenzene	250	1.7	1.0	99.3	05/23/96	96-05-23A
2,4-Dichlorobenzene	250	1.8	1.0	99.3	05/23/96	96-05-23A
1,2-Dichlorobenzene	250	1.9	1.0	99.3	05/23/96	96-05-23A
dimethanes	250	ND	1.0	> 99.6	05/23/96	96-05-23A

Note: Compounds listed are trihalomethanes.

* Filtered sample was prepared by passing spiked De-ionized water through a PRES, PURE filter at a rate of ~125 ml/minute

LABORATORY NO. 49605034

Method: Inorganic Constituents, See Below
Matrix: Filtered Spiked Water*

CLIENT: Global Technology Water

SAMPLE ID: PRES, PURE

LABORATORY ID: 49605034-001

Analyte	Pre-Filtered Spike Concentration (Calculated)	Units	Result Post Filtration	Reporting Limit (mg/l)	%Reduction	Date Analyzed
Wet Chemistry						
Chlorine (Residual)	1.7	mg/l	ND	0.1	> 94.1	05/15/96
Surfactants (MBAS)	0.33	mg/l	ND	0.04	> 87.9	05/10/96
Turbidity	25	NTU	1.8	0.1	92.8	05/09/96
Total Suspended Solids	486	mg/l	ND	5	> 99.0	05/09/96
Metals						
Aluminum	2	mg/l	ND	0.2	> 90.0	06/14/96
Arsenic	2	mg/l	1.67	0.005	16.5	05/10/96
Cadmium	2	mg/l	0.4	0.02	80.0	05/13/96
Chromium	2	mg/l	0.09	0.05	95.5	05/13/96
Copper	2	mg/l	ND	0.05	> 97.5	06/14/96
Lead	2	mg/l	ND	0.1	> 95.0	05/13/96
Mercury	2	mg/l	0.015	0.002	99.3	05/09/96
Selenium	2	mg/l	1.11	0.01	44.5	05/10/96
Zinc	2	mg/l	0.27	0.05	86.5	05/09/96



ENVIRONMENTAL

ANALYTICAL CHEMISTS

GENERAL MINERAL, PHYSICAL, INORGANIC, & RADIOLOGICAL CHEMICAL ANALYSES

Date of Report: July 2, 1996

Laboratory

Name: FGL Environmental

Name of Sampler: Paul Head

Date/time Sample

Collected: 06/20/1996-1525 Rec. & Lab: 06/21/1996-1000 Completed

Sample ID No. SP 605063-01

Signature Lab

Director:

Employed By: CTL

Date/time Sample

Date Analy

System

Name: CTL ENVIRONMENTAL SERVICES

RADIOLOGICAL CHEMICALS

MCL	UNITS	CHEMICAL	ENTRY	RESULT
	pCi/L	Radon 222	82303	540
	pCi/L	Radon 222 Counting Error	82302	± 30

RADIOLOGICAL CHEMICALS

MCL	UNITS	CHEMICAL	ENTRY	RESULT
	pCi/L	Radon 222	82303	0.0



CTL Environmental Services - Laboratory Division

24416 South Main Street, Suite 308, Carson, CA 90745 • Tel: (310) 549-6516 Fax: (310) 549-6516

LABORATORY REPORT

CLIENT: Global Technology Water
3129 S. Hacienda Blvd., Suite 360
Hacienda Heights, CA 91745
Attn: Carl Palmer

DATE RECEIVED: 07 May 1996

LAB NUMBER: 49605034

PAGE NUMBER: 1 of 4

PROJECT: PRES,PURE Product Study

LOCATION: NA

DESCRIPTION: One Water Filter Product Analyzed as Indicated on Attached Chain of Custody.

DATE REPORTED: 14 June 1996

Respectfully Submitted,
CTL Environmental Services, Inc.
Laboratory Division

Paul Mead
Laboratory Administrator

This report represents only the services of the Laboratory and is not necessarily evidence of the quality or performance of the Laboratory or its personnel or products. It is not to be used for any other purpose without the express written consent of the Laboratory. The report is submitted and accepted for the services of the Laboratory as indicated on the Chain of Custody form. In order to be valid, any laboratory or analytical results must be signed and dated by the Laboratory Administrator.

CTL Environmental Services, Laboratory Division

LABORATORY NO. 49605034

Method: EPA 608, Organochlorine Pesticides & PCBs*
Matrix: Filtered Spiked Water**

CLIENT: Global Technology Water
SAMPLE ID: Pres,Pure
LABORATORY ID: 49605034-001

Analyte	Pre-Filtered Spiked Concentration (Calculated)	Units	Result Post Filtration	Reporting Limit (µg/l)	% Reduction	Date Analyzed	QC Bar: ID
Alpha-BHC	0.8	µg/l	0.02	0.01	97.5	05/15/96	96-05-183
Gamma-BHC (Lindane)	0.8	µg/l	0.02	0.01	97.5	05/15/96	96-05-183
Beta-BHC	0.8	µg/l	0.02	0.01	97.5	05/15/96	96-05-183
Heptachlor	0.8	µg/l	0.03	0.01	96.3	05/15/96	96-05-183
Delta-BHC	0.8	µg/l	0.02	0.01	97.5	05/15/96	96-05-183
Aldrin	0.8	µg/l	0.02	0.01	97.5	05/15/96	96-05-183
Heptachlor Epoxide	0.8	µg/l	0.02	0.01	97.5	05/15/96	96-05-183
Endosulfan I	0.8	µg/l	0.02	0.01	97.5	05/15/96	96-05-183
Dieldrin	0.8	µg/l	0.04	0.01	95.0	05/15/96	96-05-183
4,4'-DDE	0.8	µg/l	0.03	0.01	96.3	05/15/96	96-05-183
4,4'-DDD	0.8	µg/l	ND	0.01	> 98.8	05/15/96	96-05-183
4,4'-DDT	0.8	µg/l	ND	0.01	> 98.8	05/15/96	96-05-183
Endrin	0.8	µg/l	0.02	0.01	97.5	05/15/96	96-05-183
Endrin Aldehyde	0.8	µg/l	0.01	0.01	98.8	05/15/96	96-05-183
Endosulfan II	0.8	µg/l	0.01	0.01	98.8	05/15/96	96-05-183
Endosulfan Sulfate	0.8	µg/l	0.02	0.01	97.5	05/15/96	96-05-183
Methoxychlor	0.8	µg/l	ND	0.01	> 98.8	05/15/96	96-05-183
PCBs							
Arochlor-1260	20	µg/l	1.1	1.0	94.5	03/15/96	96-05-183

Notes:

Note: Sample analyzed by CEL in Station.

* Due to anticipated co-elution/interference of Pesticides and PCBs, samples were spiked and analyzed in
** Filtered sample was prepared by passing spiked De-ionized water through a PRES,PURE filter and a rat

nukepill.com
Chemical • Biological • Radiological
EMERGENCY PROTECTION SUPPLIES
www.nukepill.com 1-866-283-3986



Cato R. Fiksdal
Agricultural Commissioner/
Director of Weights and Measures

COUNTY OF LOS ANGELES

**Department of
Agricultural Commissioner
and Weights and Measures**

**Environmental Toxicology Laboratory
11012 Garfield Avenue, Bldg B
South Gate, California 90280**

nukepill.com
Chemical • Biological • Radiological
EMERGENCY PROTECTION SUPPLIES
www.nukepill.com 1-866-283-3986

Robert G. Atkins
Chief Deputy

October 16, 2000

To whom it may concern:

This letter shall serve as verification that the tests performed on the portable water filtration system presently manufactured by Seychelle Environmental Technologies, Inc. were completed by the County of Los Angeles, Department of Agricultural Commissioner/Weights and Measures, Environmental Toxicology Laboratory. The referenced tests are attached and they include:

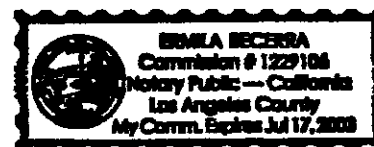
Report Date	Laboratory ID Number
October 18, 1996	MS-11721-96 (microbiology)
October 28, 1996	MS-11720-96 (inorganic) MS-11721-96 (inorganic)
November 12, 1996	MS-11721B-96 (microbiology)
November 13, 1996	MS-11721-96 (organic)
March 10, 1997	MS-01881-97 and MS-01882-97 (microbiology)
April 9, 1997	MS-02892-97 and MS-02893-97 (turbidity and MBAS)
May 22, 1997	MS-04723-97 and MS-04724-97 (anions)
September 15, 1997	MS-10813-97, MS-10814-97, MS-10815-97, MS-10816-97 (perchlorate)
January 10, 1998	MS-15865-97 (organic) MS-15867-97 (microbiology)
May 6, 1999	MS-2194-99 (organic)

I further declare that the signatures appearing on the above documents, both as Wilhelmina Solinap and Wilhelmina Maloles, is mine in my capacity as Chief of the ACWMD Environmental Toxicology Laboratory.

Wilhelmina Brown Maloles

Subscribed and sworn before me this 16 day of October, 2000.

Emilia Becerra
Notary public





Kurt E. Floren
Agricultural Commissioner/
Director of Weights and Measures

COUNTY OF LOS ANGELES

Department of Agricultural Commissioner/ Weights and Measures

Environmental Toxicology Bureau
11012 Garfield Avenue, Bldg. B
South Gate, California 90280
<http://acwm.co.la.ca.us>
Phone # (562) 940-6778

California State DHS Certificate #1430
County Sanitation ID #10240

Robert G. Atkins
Chief Deputy

Report Date: March 24, 2006

Sample Description: Water Filtration Pitchers

Attention: Carl Palmer
Seychelle Technology
32921 Calle Perfecto
San Juan Capistrano, CA 92675

Date Received: February 14, 2006

Laboratory ID Number: MS-1905-06 and MS-1906-06

FILTER PREPARATION PRIOR TO ANALYSES: The complete unit with plastic lid and charcoal filter was initially rinsed with 1 liter of deionized water.

ORGANIC TESTING

Description of Methods:

Volatile Organic (Method 524.2): 125 μ l (0.125 mg/l) of volatile organic standard in methanol at 2000 μ g/ml was added to 1 liter of deionized water. This spiked water (concentration = 250 μ g/l) was transferred to filter unit MS-1905-06 and MS-1906-06, filtered through the unit and analyzed. Procedure was performed on March 13, 2006.

Chlorinated Pesticides (Method 505): 1.0 ml of Chlorinated Pesticides at 10 μ g/ml was added to 1.0 liter of deionized water. This spiked water (concentration = 10 μ g/l) was transferred to filter unit MS-1905-06 and MS-1906-06, filtered through the unit and analyzed. Procedure was performed on February 23, 2006.

Nitrogen and Phosphorus containing Pesticides (Method 507): 1 ml of simazine, atrazine, molinate and thiobencarb at 50 μ g/ml was added to 1.0 liter of deionized water. This spiked water (concentration = 50 μ g/l) was transferred to filter unit MS-1905-06 and MS-1906-06, filtered through the unit and analyzed. Procedure was performed on February 24, 2006.

Chlorinated Acids (Method 515.3): 500 μ l (0.5 ml) of Chlorinated Acids at 1 mg/ml was added to 1.0 liter of deionized water. This spiked water (concentration = 500 μ g/l) was transferred to filter unit MS-1905-06 and MS-1906-06, filtered through the unit and analyzed. Procedure was performed on March 9, 2006.

Carbamates (Method 531.1): 500 μ l (0.5 ml) of Chlorinated Acids at 1 mg/ml was added to 1.0 liter of deionized water. This spiked water (concentration = 500 μ g/l) was transferred to filter unit

Seychelle Technology/Palmer
MS-1905-06 and MS-1906-06

MS-1905-06 and MS-1906-06, filtered through the unit and analyzed. Procedure was performed on February 27, 2006.

Glyphosate (Method 547): 1.0 ml of glyphosate standard at 1 mg/ml was added to 1.0 liter of deionized water. This spiked water (concentration = 1,000 µg/l) was transferred to filter unit MS-1905-06 and MS-1906-06, filtered through the unit and analyzed. Procedure was performed on February 21, 2006.

PW-1905-06

Analyte	Method Used ¹	Pre-Filtered Concentration	Units	Post-Filtration Result	% Reduction	Reporting Limit	Date Analyzed
Bromodichloromethane	524.2	250	µg/l	0.64	99.74	0.5	3/13/06
Bromoform	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
Chloroform	524.2	250	µg/l	0.85	99.66	0.5	3/13/06
Dibromochloromethane	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
Benzene	524.2	250	µg/l	0.54	99.78	0.5	3/13/06
Carbon Tetrachloride	524.2	250	µg/l	<0.5	99.80	0.5	3/13/06
1,2-Dichlorobenzene	524.2	250	µg/l	<0.5	99.80	0.5	3/13/06
1,4-Dichlorobenzene	524.2	250	µg/l	<0.5	99.80	0.5	3/13/06
1,1-Dichloroethane	524.2	250	µg/l	0.67	99.73	0.5	3/13/06
1,2-Dichloroethane	524.2	250	µg/l	0.76	99.70	0.5	3/13/06
1,1-Dichloroethylene	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
cis-1,2-Dichloroethylene	524.2	250	µg/l	0.63	99.75	0.5	3/13/06
trans-1,2-Dichloroethylene	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
Dichloromethane (methylene chloride)	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
1,2-Dichloropropane	524.2	250	µg/l	0.62	99.75	0.5	3/13/06
Ethyl benzene	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
1,3-Dichloropropene	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
1,1-Dichloroethane	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
Monochlorobenzene	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
Styrene	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
1,1,2,2-Tetrachloroethane	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
Tetrachloroethylene	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
Toluene	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
1,2,4-Trichlorobenzene	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
1,1,1-Trichloroethane	524.2	250	µg/l	0.64	99.74	0.5	3/13/06
1,1,2-Trichloroethane	524.2	250	µg/l	0.63	99.75	0.5	3/13/06

Analyte	Method Used ¹	Pre-Filtered Concentration	Units	Post-Filtration Result	% Reduction	Reporting Limit	Date Analyzed
Trichloroethylene	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
Trichlorotrifluoroethane (Freon 113)	524.2	250	µg/l	<0.5	>99.80	0.5	3/13/06
Vinylchloride	524.2	250	µg/l	<0.5	99.80	0.5	3/13/06
Total Xylenes	524.2	750	µg/l	1.32	99.82	1.5	3/13/06
MTBE	524.2	250	µg/l	<1	>99.60	1	3/13/06
Hexachlorocyclopentadiene	505	10	µg/l	<1	>90.00	1	2/23/06
Lindane	505	10	µg/l	<0.2	>98.00	0.2	2/23/06
Heptachlor	505	10	µg/l	<0.01	>99.90	0.01	2/23/06
Heptachlor epoxide	505	10	µg/l	<0.01	99.90	0.01	2/23/06
Endrin	505	10	µg/l	<0.1	>99.00	0.1	2/23/06
Methoxychlor	505	10	µg/l	<1	>90.00	1	2/23/06
Molinate	507	50	µg/l	<2	>96.00	2	2/23/06
Atrazine	507	50	µg/l	<1	>98.00	1	2/23/06
Simazine	507	50	µg/l	<1	>98.00	1	2/23/06
Thiobencarb	507	50	µg/l	<1	>98.00	1	2/23/06
Bentazon	515.3	500	µg/l	<2	>99.60	2	2/23/06
2,4-D	515.3	500	µg/l	<10	>98.00	10	2/23/06
Dinoseb	515.3	500	µg/l	<2	>99.60	2	2/23/06
Pentachlorophenol	515.3	500	µg/l	<0.2	>99.96	0.2	2/23/06
Silvex	515.3	500	µg/l	<1	>99.80	1	2/23/06
Oxamyl	531.1	500	µg/l	<20	>96.00	20	2/23/06
Carbofuran	531.1	500	µg/l	<5	>99.00	5	2/23/06
Glyphosate	547	1000	µg/l	59.8	94.02	25	2/21/06

Submitted By:

David Chiu 4/11/06
David Chiu, Supervising Toxicologist Date

Wasfy Shindy 4/11/06
Wasfy Shindy, Ph.D., Deputy Director Date

1. Method number from EPA publication EPA-600/4-79-020, rev. 3/83.

2. Method number from EPA publication EPA-600/4-79-020, rev. 3/83.



Kurt E. Floren
Agricultural Commissioner/
Director of Weights and Measures

COUNTY OF LOS ANGELES

Department of
Agricultural Commissioner/
Weights and Measures

Environmental Toxicology Bureau
11012 Garfield Avenue, Bldg. B
South Gate, California 90280
<http://acwm.co.la.ca.us>
Phone # (562) 940-6778

California State DHS Certificate #1430
County Sanitation ID #10240

nukepillls.com
Chemical • Biological • Radiological
EMERGENCY PROTECTION SUPPLIES
www.nukepillls.com 1-866-283-3986

Robert G. Atkins
Chief Deputy

Report Date: April 7, 2006

Sample Description: Water Filtration Pitchers.

Attention: Carl Palmer
Seychelle Technology
32921 Calle Perfecto
San Juan Capistrano, CA 92675

Date Received: February 4, 2006

Laboratory ID Number: MS-1905-06 and MS-1906-06

FILTER PREPARATION PRIOR TO ANALYSES: The complete filtering unit was initially rinsed and drained with 1 liter of deionized water.

INORGANIC TESTING

Description of Methods:

Nitrite, nitrate, & fluoride: A 500 ml of 1 mg/L fluoride, 2 mg/l nitrite and 20 mg/l nitrate were transferred to filter unit MS-1905-06 and MS-1906-06, filtered through the filter and analyzed. Procedures was performed on 3/21/06.

MBAS Analyses: A 500-ml of 300 ug/L aliquot was passed through the filter and analyzed. Procedure was performed on 3/10/06.

Trace Metals: 500 ml of 200 µg/l each of chromium, copper, lead, nickel, cadmium, cobalt, zinc, arsenic, molybdenum, vanadium, mercury, antimony, selenium, thallium and 500 µg/l of barium was transferred to filter unit MS-1905-06 and MS-1906-06, filtered through the filter, and analyzed. Procedure was performed on 3/21/06.

Mercury: 1 liter of 25 µg/l mercury in water was transferred to MS-1905-06 and MS-1906-06, filter through the filter and analyzed on 3/31/06.

Turbidity: 500ml water with turbidity value of 4.50 NTU was passed through the filters and analyzed. Procedure performed on 3/10/06.

Chromium VI: 500 ml water with 200 µg/l chromium VI was filtered through filter unit MS-1905-06 and MS-1096-06, and the filtrate was analyzed on 2/21/06.


Total Residual Chlorine: 500ml aliquot of 0.80 mg/l chlorine was passed through the filters and analyzed on 3/10/06.

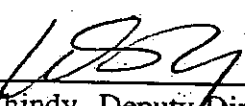
Protecting Consumers and the Environment Since 1881
To Enrich Lives Through Effective and Caring Service

Seychelle Technology/Palmer
MS-1905-06 thru MS-1906-06

MS #	Analyte	Method Used ¹	Pre-Filtered Concentration	Units	Post-Filtration Result	% Reduction	Reporting Limit	Date Analyzed
1905/06	Nitrate	SM 4110	20	mg/l	18.6	65	0.5	3/21/06
1905/06	Nitrite	SM 4110	2	mg/l	<0.1	>95	0.1	3/21/06
1905/06	Fluoride	SM 4110	1	mg/l	<0.1	>90	0.1	3/21/06
1905/06	Arsenic	200.8	200	μg/l	<2	>99	2	3/21/06
1905/06	MBAS	425.1	300	μg/l	<10	>96.67	10	3/10/06
1905/06	Chromium	200.8	200	μg/l	117	41.50	10	3/21/06
1905/06	Copper	200.8	200	μg/l	39.2	80.40	10	3/21/06
1905/06	Nickel	200.8	200	μg/l	152	24.00	10	3/21/06
1905/06	Cadmium	200.8	200	μg/l	128	36.00	1	3/21/06
1905/06	Cobalt	200.8	200	μg/l	154	23.00	10	3/21/06
1905/06	Zinc	200.8	200	μg/l	183	8.50	50	3/21/06
1905/06	Lead	200.8	200	μg/l	<5	>97.50	5	3/21/06
1905/06	Molybdenum	200.8	200	μg/l	<20	>90.00	20	3/21/06
1905/06	Vanadium	200.8	200	μg/l	<25	>87.50	25	3/21/06
1905/06	Antimony	200.8	200	μg/l	<5	>97.50	5	3/21/06
1905/06	Selenium	200.8	200	μg/l	<5	>97.50	5	3/21/06
1905/06	Thallium	200.8	200	μg/l	<1	>99.50	1	3/21/06
1905/06	Barium	200.8	500	μg/l	233	53.40	100	3/21/06
1905/06	Chromium VI	218.6, IC	200	μg/l	7.76	96.12	0.25	2/21/06
1905/06	Mercury	245.1	25	μg/l	<0.5	>98.00	0.5	3/31/06
1905/06	Total Residual Chlorine	330.5	0.80	mg/l	<0.1	>87.50	0.1	3/10/06
1905/06	Turbidity	180.1	4.5	NTU	0.12	97.33	0.1	3/10/06

Submitted By:

 4/10/06
Wai Leung, Supervising Toxicologist Date

 4/11/06
Dr. Wasfy Shindy, Deputy Director Date
tm



Cato R. Fiksdal
Agricultural Commissioner/
Director of Weights and Measures

COUNTY OF LOS ANGELES

Department of
Agricultural Commissioner/
Weights and Measures

Environmental Toxicology Laboratory
11011 Garfield Avenue, Bldg. B
South Gate, California, 90280
<http://acwm.co.la.ca.us>
Phone # (562) 940-6778
Fax # (562) 940-6785

Robert G. Atkins
Chief Deputy

nukepill.com
Chemical • Biological • Radiological
EMERGENCY PROTECTION SUPPLIES
www.nukepill.com 1-866-283-3986

California State DHS Certificate #1430
County Sanitation ID #10240

Report Date: October 14, 2003

Sample Description: Sports Bottle

Attention: Carl Palmer
Seychelle Environmental
33052-C Calle Aviador
San Juan Capistrano, CA 92675

Date Received: September 11, 2003

Laboratory ID Number: MS-9876-03

FILTER PREPARATION PRIOR TO ANALYSES: The complete filtering unit was initially rinsed and drained with 1 gallon of deionized water.

INORGANIC TESTING

Description of methods for arsenic, total chromium, and chromium VI concentration: A 500 ml of 200 ug/L arsenic, total chromium, and chromium VI were transferred to filter unit MS-9876-03, and were filtered through the filter and analyzed. Procedures for arsenic & total chromium were performed on 09/17/03 and chromium VI was performed on 10/09/03.

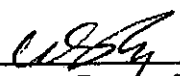
Description of method for Fluoride concentration: A 500 ml of 2 mg/l fluoride was transferred to filter unit MS-9876-03, and was filtered through the filter and analyzed. Procedure of fluoride was performed on 10/06/03.

MS #	Analyte	Method Used	Pre-Filtered Concentration	Units	Post-Filtration Result	% Reduction	Reporting Limit	Date Analyzed
9876/03	Chromium 6	218.6	200	ug/L	0.38	99.81	0.25	10/09/03
9876/03	Arsenic	200.8	200	ug/L	16.4	91.80	5	09/17/03
9876/03	Fluoride	300	2	mg/l	0.29	85.50	0.1	10/06/03

Submitted By:


Wai Leung, Supervising Toxicologist


Date


Dr. Wasfy Shindy, Deputy Director


Date

tm

Protecting Consumers and the Environment Since 1881



Cato R. Fiksdal
Agricultural Commissioner/
Director of Weights and Measures

COUNTY OF LOS ANGELES

*Department of
Agricultural Commissioner
and Weights and Measures*

*Environmental Toxicology Laboratory
11012 Garfield Avenue, Bldg B
South Gate, California 90280*

nukepill.com
Chemical • Biological • Radiological
EMERGENCY PROTECTION SUPPLIES
www.nukepill.com 1-866-283-3986

Robert G. Atkins
Chief Deputy

California State DHS Certificate #1430
County Sanitation ID #10240
Phone (562) 940-6778

Report Date: January 23, 2002

Sample Description: Water Filtering Container with Drain

Attention: Carl Palmer
Seychelle Technology
32921 Calle Perfecto

Date Received: January 4, 2002

Laboratory ID Number: MS-177-02


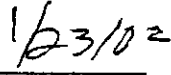
FILTER PREPARATION PRIOR TO ANALYSES: The complete filtering unit was initially rinsed and drained with 1 gallon of deionized water.

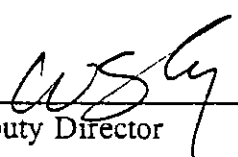
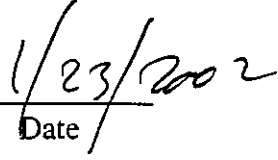
INORGANIC TESTING

Description of methods for arsenic and chromium 6 concentration: A 500 ml of 200 ug/L arsenic and chromium 6 were transferred to filter unit MS-177-02, and were filtered through the filter and analyzed. Procedures for arsenic was performed on 1/11/02 and chromium VI was performed on 1/22/02.

MS #	Analyte	Method Used ¹	Pre-Filtered Concentration	Units	Post-Filtration Result	% Reduction	Reporting Limit	Date Analyzed
177/02	Chromium 6	218.6	200	ug/L	<0.25	>99.875	0.25	1/22/02
177/02	Arsenic	200.8	200	ug/L	66.6	66.7	5	1/11/02

Submitted By:

 
Wai Leung, Supervising Toxicologist Date

 
Wasfy Shindy, Deputy Director Date

Contact Time Required to Kill The Disease Organisms Listed
(0.5 ppm Iodine, pH 7.5, 20-65 C)

BACTERIA	MINIMUM CONTACT TIME
<i>Escherichia coli</i>	50 seconds
<i>Salmonella typhosa</i> P-1	1 minute
<i>Salmonella typhosa</i> P-3	1 minute
<i>Salmonella typhosa</i> P-10	1 minute
<i>Salmonella paratyphi</i> P-12	1 minute
<i>Salmonella schottmulleri</i> P-3	2 minutes
<i>Salmonella typhimurium</i> P-611	5 minutes
<i>Shigella flexneri</i> P-7	2 minutes
<i>Shigella dysenteriae</i> 11 P-8	2 minutes
<i>Shigella sonnei</i> 1 P-9	2 minutes
<i>Streptococcus fecalis</i> E-40	2 minutes
<i>Staphylococcus aureus</i>	50 seconds
<i>Staphylococcus epidermidis</i>	1 minute
VIRUS	MINIMUM CONTACT TIME
<i>Poliovirus</i> Type 1	9 minutes
CYSTS (@ 1 ppm Iodine)	MINIMUM CONTACT TIME
<i>Entamoeba histolytica</i>	30 minutes

Mar 21 1996



SGS U.S. Testing Company Inc.

75 Passaic Avenue
Fairfield, NJ 07004
Tel: 201 575 5252
Fax: 201 244 1823

202381
Date: 3/18/96

Screening Study to Assess Antibacterial Properties
of "Pres to Pure" Water Bottle

Conducted for:

Test Report No. 202381

Prepared by:

The Purolite Company
150 Monument Road
Bala Cynwyd, PA 19004

Signed for the Company by:

Anthony T. Grillo, MS
Manager, Microbiology

March 18, 1996

Daniel Drozdowski
Director, Microbial Services

REPORT OF TEST



SGS U.S. Testing Company Inc.

Mar 21 1996

Client: Purolite

202381
3/18/96

CLIENT:

The Purolite Company
150 Monument Road
Bala Cynwyd, PA 19004

SUBJECT:

Evaluation of antibacterial properties of a water purifier system
identified a "Pres to Pure"

SAMPLE ID:

Sample received from client on 2/29/96. Identified the sample as:
Pres to Pure, water bottle

TEST

Sample is a one pint clear plastic water bottle with blue cap. Inside the
neck of the bottle is "shot glass" shaped filter composed of a
composite including Iodine resin.

PROCEDURE:

Antibacterial testing was based on methods outlined in United States
Environmental Protection Agency's "Guide Standard and Protocol for
Testing Microbiological Water Purifiers.", Revised April 1987.

NOTE: this study is only a screen of antibacterial effectiveness for this
product, and does not offer data on viral or protozoan efficacy as
required by above referenced document.

TEST DATES:

March 12 - March 18, 1996

TEST PROCEDURE OUTLINE:

TEST SPECIES:

Klebsiella terrigena ATCC 33257

TEST WATER:

EPA Test Water #2

One liter of deionized water was amended as follows:

1.) pH adjusted to 4.97 with HCl.
2.) Total Organic Carbon (TOC) adjusted to 17.0 mg/L with
humic acid.

3.) Turbidity adjusted to 34 NTU with AC Spark Plug Dust.
4.) TDS adjusted to 1450 mg/L with sea salts.
5.) Temperature adjusted to 4°C by placing in refrigerator
for 4 hours.

CONTACT TIME:

0, 1.0, 2.5, and 5.0 minutes

RECOVERY MEDIA:

Violet Red Bile Agar (VRBA)

NEUTRALIZER:

0.1 Normal Sodium thiosulfate



SGS U.S. Testing Company Inc.

Client: Purolite

202381
3/18/96

EST. PROCEDURE OUTLINE:

1. One liter of test water was inoculated with one ml of *Klebsiella terrigena* so that the final concentration was approximately 1×10^7 cfu/100 ml.
2. 110 ml of the inoculated test water was poured through the neck of the bottle. Once the entire volume was filtered, the timer was initiated.
3. At the designated contact time, 100 ml of the water was filtered through a 0.45 micron filter. Simultaneously, one ml of water was placed in 9 ml of phosphate buffered water with 0.1 N sodium thiosulfate. After filtering the 100 ml, the funnel was rinsed with 100 ml of 0.1N sodium thiosulfate.
4. The filter was placed on a plate of VRBA and incubated at 35°C for 48 hours. The one ml which was neutralized with 0.1N sodium thiosulfate was plated with VRBA and incubated at 35°C for 48 hours.

NEUTRALIZATION:

was essential to verify that the neutralization of the active antimicrobial agent as outlined above was effective. This was accomplished as follows:

1. One ml of Pres to Pure filtered test water was added to 9 ml of 0.1 N sodium thiosulfate phosphate buffered water.
2. 1 - 100 cfu of *K. terrigena* were added to this test tube and to ten ml of phosphate buffered water without Pres to Pure filtered water.
3. Both sets of inoculated water were plate counted with VRBA. Similar plate counts would indicate adequate neutralization.

REPORT OF TEST



SGS U.S. Testing Company Inc.

Client: Purolite

202381
3/18/96

RESULTS:

TABLE 1: NEUTRALIZATION

	<i>K. terrigena</i> A (cfu/ml)	<i>K. terrigena</i> B (cfu/ml)	Average (cfu/ml)
--	-----------------------------------	-----------------------------------	---------------------

Control	9	18	13
Purified/Neutralized	11	16	14

Summary: Counts between the control sample and the purified and neutralized sample are similar, indicating that the neutralization method employed was effective.

TABLE 2: RECOVERY COUNTS OF INOCULATED AND PURIFIED WATER

Contact Time (minutes)	Recovered <i>K. terrigena</i> (cfu/100ml)	Percent Reduction
0	13,300,000	not applicable
1.0	18	99.99988%
2.5	30	99.99977%
5.0	39	99.99970%

Conclusion:

EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers requires a 5 log reduction of bacterial counts (99.9999%). The data derived from this study indicates five plus log reduction was achieved by Pres to Pure.

Discussion:

The data indicate that the antibacterial efficacy of this product is not time dependent (at least not after one minute of exposure), as essentially the same results were achieved at 1, 2.5 and 5 minutes of contact time. The surviving organisms represent a plateau in the death/time curve. This plateau may represent a reaction between our test water and the active agent, or of residual bacteria remaining in the neck of the bottle which do not pass through the filter, and therefore do not contact the iodine resin.



COUNTY OF LOS ANGELES

Department of
Agricultural Commissioner
and Weights and Measures

Chemical • Biological • Radiological
EMERGENCY PROTECTION SUPPLIES

www.nukepill.com 1-866-283-3986

E. Lee Spang
Agricultural Commissioner
Director of Weights and Measures

Cato R. Fiksdal
Chief Deputy

Environmental Toxicology Laboratory
11012 Garfield Ave., Bldg. B
South Gate, Ca. 90280
(310) 940-6778
California DHS-ELAP Accreditation Number 1430

March 10, 1997

Sample Description: See Below
Date Received: March 4, 1997
Laboratory ID Number: See Below

Attention: Carl Palmer
Global Water Technology

MICROBIOLOGY TESTING RESULTS

Description of Method: 100ml of known wastewater sample, laboratory ID number PW-01764-97, was passed through the filter unit to 1 4oz sterile container. The water was immediately tested for total coliform and fecal coliform. A parallel analysis of the unfiltered wastewater sample, in triplicate, was performed simultaneously.

RESULTS OF LABORATORY ANALYSES:			
Lab #	Analyte	Method Used ¹	Detection Limit

Average of triplicate analysis of background water, PW-01764-97:

Total Coliform	908A	4,266,667 MPN/100ml	<2 MPN/100ml
Fecal Coliform	908C	2,256,667 MPN/100ml	<2 MPN/100ml

Difference in coliform count after filtration:

Filter Unit 1 (clear plastic) with cellulose acetate filter and no IO-filter, MS-01881-97
Actual coliform count:

Total Coliform	908A	170,000 MPN/100ml	<2 MPN/100ml
Fecal Coliform	908C	35,000 MPN/100ml	<2 MPN/100ml

% reduction of background water after filtration:

Total Coliform	96%
Fecal Coliform	98%

Filter Unit 2 (Biopure label) with cellulose acetate filter and no IO filter, MS-01882-97
Actual coliform count:

Total Coliform	908A	130,000 MPN/100ml	<2 MPN/100ml
Fecal Coliform	908C	50,000 MPN/100ml	<2 MPN/100ml

% reduction of background water after filtration:

Total Coliform	97%
Fecal Coliform	98%

Submitted By:

Wilhelmina M. Solinap, Chief
Environmental Toxicology Laboratory

¹ Standard Methods for the Examination of Water and Wastewater, 16th ed., APHA, AWWA.



R. Leon Spang
Agricultural Commissioner
Director of Weights and Measures

Cato R. Fiksdal
Chief Deputy

Environmental Toxicology Laboratory
11012 Garfield Ave., Bldg. B
South Gate, Ca. 90280
(310) 940-6778
California DHS-ELAP Accreditation Number 1430

November 12, 1996

Attention: Carl Palmer
Global Water Technology

Sample Description: Pres,Pure-IO Filter¹
Date Received: October 16, 1996
Laboratory ID Number: MS-11721B-96

MICROBIOLOGY TESTING RESULTS

Description of Method: A new filter unit was provided by Mr. Plamer of Global Water Technology. The same method as described below was followed in preparing the sample and performing the analysis.

The complete unit with plastic bottle and filter cap was initially rinsed with 1 gallon of de-ionized water. After rinsing, 500ml of known wastewater sample, laboratory ID number PW-11750R-96 was passed through the filter and allowed to sit inside the plastic bottle for approximately 5 minutes. The water was then pushed out of the bottle, through the filter, for immediate bacteriological testing of total coliform, fecal coliform, fecal streptococcus, and fecal enterococcus. A parallel analysis of the unfiltered wastewater sample was performed simultaneously.

Note that the level of bacterial contamination found in the known wastewater sample was less than in previous analysis due to aging of the sample.

RESULTS OF LABORATORY ANALYSES:

Lab #	Analyte	Method Used ¹	Results	Detection Limit
MS-11721B-96 (filtered wastewater)	Total Coliform	908A	not detected	<2 MPN/100ml
PW-11750R-96 (unfiltered wastewater)	Total Coliform	908A	110 MPN/100ml	<2 MPN/100ml

COMPARISON: $\geq 98.2\%$ reduction in estimated total coliform colony count was observed after the wastewater sample was passed through the filter unit.

MS-11721B-96 (filtered wastewater)	Fecal Coliform	908C	not detected	<2 MPN/100ml
PW-11750R-96 (unfiltered wastewater)	Fecal Coliform	908C	70 MPN/100ml	<2 MPN/100ml

COMPARISON: $\geq 97.1\%$ reduction in estimated fecal coliform colony count was observed after the wastewater sample was passed through the filter unit.

No comparison can be made with the fecal streptococcus and enterococcus analyses since no contamination was detected in the unfiltered wastewater sample.

Submitted By:

Wilhelmina M. Spilnap, Chief
Environmental Toxicology Laboratory

¹ Standard Methods for the Examination of Water and Wastewater, 16th ed., APHA, AWWA.



R. Leon Springs
Agricultural Commissioner
Director of Weights and Measures

Cato R. Fiksdal
Chief Deputy

Environmental Toxicology Laboratory
11012 Garfield Ave., Bldg. B
South Gate, Ca. 90280
(310) 940-6778
California DHS-ELAP Accreditation Number 1430

October 18, 1996

Attention: Carl Palmer
Global Water Technology

Sample Description: Pres. Pure-IO Filter
Date Received: October 9, 1996
Laboratory ID Number: MS-11721-96

MICROBIOLOGY TESTING RESULTS

Description of Method: The complete unit with plastic bottle and filter cap was initially rinsed with 1 gallon of de-ionized water. After rinsing, 500ml of known wastewater sample, laboratory ID number PW-11750-96 was passed through the filter and allowed to sit inside the plastic bottle for approximately 5 minutes. The water was then pushed out of the bottle, through the filter, for immediate bacteriological testing of total coliform, fecal coliform, fecal streptococcus, and fecal enterococcus. A parallel analysis of the unfiltered wastewater sample was performed simultaneously.

RESULTS OF LABORATORY ANALYSES:

Lab #	Analyte	Method Used ¹	Results	Detection Limit
MS-11721-96 (filtered wastewater)	Fecal Coliform	908C	22 MPN/100ml	< 2 MPN/100ml
PW-11750-96 (unfiltered wastewater)	Fecal Coliform	908C	240 MPN/100ml	< 2 MPN/100ml

COMPARISON: 90.8% reduction in estimated fecal coliform colony count was observed after the wastewater sample was passed through the filter unit.

MS-11721-96 (filtered wastewater)	Fecal Streptococcus	910A	< 20 MPN/100ml	< 20 MPN/100ml
PW-11750-96 (unfiltered wastewater)	Fecal Streptococcus	910A	800 MPN/100ml	< 20 MPN/100ml

COMPARISON: ≥ 97.5% reduction in estimated fecal streptococcus colony count was observed after the wastewater sample was passed through the filter unit.

MS-11721-96 (filtered wastewater)	Fecal Enterococcus	910A	< 20 MPN/100ml	< 20 MPN/100ml
PW-11750-96 (unfiltered wastewater)	Fecal Enterococcus	910A	800 MPN/100ml	< 20 MPN/100ml

COMPARISON: ≥ 97.3% reduction in estimated fecal enterococcus colony count was observed after the wastewater sample was passed through the filter unit.



Mr. Douglas Edison
Environmental Safety Products
93873 Crystal Creek Road, Box 348
Sixes, OR 97476

April 10, 1997

Dear Mr. Edison:

The following is a report on the *Giardia* and *Cryptosporidium* challenge performed on two Press-2-Pure Sports bottles. The two bottles, received on 4/2/97, contained the carbon block filter only. Neither had the Iodinated resin present.

Test Protocol:

The purpose was to challenge two test bottles with cysts/oocysts of *Giardia*/ *Cryptosporidium* and determine Log₁₀ removals when challenge water was passed through the carbon filter.

1. **Bottle description**

- a. Two bottles, One is white (A) and the other Black (B), supplied by AQUA VISION.
- b. Total volume of bottle approx. 550 mL.
- c. Carbon block filter present, iodinated resin absent.

2. **Test procedure**

- a. Test Water - Benicia City tap water.
- b. Each bottle pre-purge with 4 L of test water.
- c. Challenge water made up of Benicia City water, 1,000 mL., containing a total of 7.7×10^5 formalinized *Giardia lamblia* cysts and 1.3×10^6 formalinized *Cryptosporidium parvum* oocysts.
- d. Seeded challenge water assayed for cysts and oocyst concentration.
- e. Each pre-flushed bottle was filled with 500 mL of seeded test water, the cap replaced and the contents (permeate) pressed out into a corresponding sterile receptacle (a 1L beaker);
- f. 100 mL of the permeate samples were examined for the number of *Giardia* and *Cryptosporidium* cysts/oocysts.

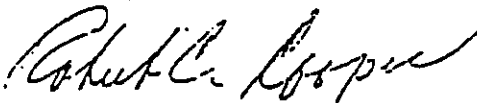
3. **Results : See next page**

3. Results

Concentration of *Giardia* and *Cryptosporidium* cyst/oocysts In Challenge Water
And Perineate From Press-2-Pure Sports Bottle - Cysts/oocysts per mL.

Sample	Bottle A				Bottle B			
	<i>Giardia</i>		<i>Cryptosporidium</i>		<i>Giardia</i>		<i>Cryptosporidium</i>	
	Cyst/ mL	Log ₁₀	oocyst /mL	Log ₁₀	Cyst/ mL	Log ₁₀	oocyst / mL	Log ₁₀
C ₀	771	2.89	1335	3.13	771	2.89	1335	3.13
C _p	<0.01	-2.0	0.26	-0.59	0.09	-1.05	0.39	-0.41
Log Reduction		>4.89		3.72		3.94		3.54

C₀ = Concentration in seed challenge; C_p = Concentration in "press" sample



Robert C. Cooper, Ph.D.
Vice President



BioVir Laboratories, Inc.

 **nukepill.com**

Chemical • Biological • Radiological

EMERGENCY PROTECTION SUPPLIES

www.nukepill.com 1-866-283-3986

885 Stone Road • Benicia, CA 94510 • (707) 747-5906 • 1-800-GIARDIA • FAX (707) 747-1751

Mr. Douglas Edison
Environmental Safety Products
93873 Crystal Creek Road, Box 348
Sixes, OR 97476

Mr. Carl Palmer
Aqua Vision International
1046 Calle Recodo #8
San Clemente, CA 92673

April 30, 1997

Dear Mr. Edison and Mr. Palmer:

The following is a report on the *E.coli* challenge performed on two Press-2-Pure Sports bottles. One of the two bottles contained the carbon block filter only, while the other contained the iodinated resin as well as the carbon block.

Test Protocol:

The purpose was to challenge two test bottles with a test water seeded with *E.coli* ATCC 11229 and determine Log₁₀ removals when challenge water was added and "pressed" out.

1. **Bottle description**
 - a. Two bottles, One labeled 1W and containing the iodinated resin and the other labeled 2W/O which had no iodinated resin present, supplied by ESP.
 - b. Total volume of bottle approx. 550 mL.
2. **Test procedure**
 - a. Test Water - Benicia City tap water. Residual chlorine removed by boiling. The water cooled to 21C and the pH adjusted to 7.5.
 - b. Each bottle pre-purged with three bottle volumes of test water.
 - c. Challenge water made up of adjusted Benicia City water, 1,000 mL., containing a total of 3.5×10^7 colony forming units (Cfu) per 100mL.
 - d. Challenge bacteria, *E.coli* 11229, was washed from a 24 hour slant of Tryptic Soy Agar, adjusted to a McFarland standard of ≈ 0.5 and added to the tap water to give a final concentration in the range of 1×10^7 Cfu per 100 mL.
 - e. Each pre-flushed bottle was filled with 500 mL of seeded test water, the cap replaced and the contents (permeate) pressed out into a corresponding sterile receptacle (≈ 100 + mL water sample bottle containing 10 mL of sterile 1.0N sodium thiosulfate solution).
 - f. The exposure times were as follows: Zero, 2.5 and 10 min after fill with the iodinated bottle and 1 min in the case of the carbon filter-only bottle.
 - g. Seeded challenge and purge water was assayed for *E. coli* by membrane filtration and the filter overlain on m-Endo agar for 24 hours at 35°C. One hundred mL volumes of the 2.5 and 10 min exposure samples were filtered. Because greater bacterial numbers were expected in the remaining samples lesser volumes were examined.

3. Results : See next page

***E. coli* Reduction In Press-2-Pure Sports Bottle**

Sample ID	Cfu per 100 mL of sample and Associated Log Reduction	
	Cfu	Log ₁₀ Reduction
Seed 92033 ¹	3.5 x 10 ⁷	0
C 92033 ²	2.6 X 10 ⁵	2.13
I ₀ 92033 ³	< 1 X10 ³	> 5.54
I ₂ 92033 ⁴	< 1	> 7.54
I ₅ 92033 ⁵	< 1	> 7.54
I ₁₀ 92033 ⁶	< 1	> 7.54

¹ Challenge water; ²Carbon filter only; ³Iodinated Resin present, zero min exposure; 10 min exposure; ⁴ Iodinated Resin present, 2 min. exposure; ⁵Iodinated Resin present, 5 min exposure; and, ⁶Iodinated Resin present, 10 min exposure.

Conclusion

Under the conditions of this test *E.coli* ATCC11229 was reduced by greater than 7 orders of magnitude (>99,99999 %) after two minutes of post filling exposure. Greater than two orders was observed immediately after filling the bottle. The reduced sensitivity at zero post filling time was due to the fact that only one mL of permeate was examined because of the presumption that the expected reduction would not be excessive. Slightly more than 99% removal was observed when bottle-water was passed through the carbon filter in the absence of the iodinated resin.


Robert C. Cooper, Ph.D
Vice President



BioVir Laboratories, Inc.

 **nukepill.com**

Chemical • Biological • Radiological

EMERGENCY PROTECTION SUPPLIES

www.nukepill.com 1-866-283-3986

625 Stone Road • Benicia, CA 94510 • (707) 747-5906 • 1-800-GIARDIA • FAX (707) 747-1781

MEMORANDUM
BY FAX

TO: Lew Ostarhoudt

FROM: Bob Cooper 

DATE: Feb. 10, 1997

RE: Virus challenge update

Lew:

I have challenged the "New" and a control sports bottle in the manner which we discussed over the phone. The bottles were flushed with a gallon (4L) of deionized water prior to the series of test challenges. The three sequential challenges were performed using waters of the following quality:

A. General Test Water: Benicia Tap water that had been boiled to remove the chlorine residual. This latter was 0.5mg/L initially and non-detectable after heating. The water was cooled to 20C prior to use. The water had a TDS of 181 mg/L, a pH of 8.0, a turbidity of 0.15NTU and an estimated TOC of 6.4mg/L.

B. EPA Test Water-pH 9: This was made up with humic acid, sea salts and "Sparkplug Dust" as per the EPA recipe. Temperature at 10C.

C. EPA Test Water-pH5: Same as B above but held at pH5.

The sports bottles were challenged using the three waters in the same sequence as listed above (A-B-C) and the bottles rinsed with two volumes of unseeded sequential test water prior to the next virus challenge. Samples were collected every 10 min. for 30 min and immediately neutralized in buffered sodium thiosulfate. Zero and 30 min. exposures were assayed and the remaining samples archived for future analysis if needed.

The results of this series of tests are shown in the attached tables. I would be happy to discuss these results in more detail by phone.

Concentration of MS-2 Coliphage During Exposure To "New" Purolite Test Bottle (pfu/mL)

Sample Source	Time Of Exposure To Test Waters					
	General Test Water		EPA-9 Test Water		EPA-5 Test Water	
	0 min.	30 min.	0 min.	30 min.	0 min.	30 min.
Test Reservoir	1.8×10^6	$<1 \times 10^1$	7.4×10^6	$<1 \times 10^1$	9.4×10^6	$<1 \times 10^1$
Test "Press"	NA	$<1 \times 10^1$	NA	$<1 \times 10^1$	NA	$<1 \times 10^1$
Control Reservoir	1.8×10^6	2.4×10^6	7.4×10^6	6.2×10^6	9.4×10^6	7.2×10^6
Control "Press"	NA	$<1 \times 10^1$	NA	4.2×10^4	NA	4.8×10^4

Log₁₀ Reduction In MS-2 Coliphage Exposed To Purolite Sports Bottle

Sample Source	Test Water		
	General Test Water	EPA-9 Test water	EPA-5 Test water
Test Reservoir	>6.3	>6.9	>7.0
Test "Press"	>6.3	>6.9	>7.0
Control Reservoir	0 (-0.1)	0 (0.08)	0 (0.1)
Control "Press"	>6.3	2.3	2.3

7 log reduction
99.999999%

6 log reduction
99.9999%

EPA requires 4 log reduction. 99.99%



BROWARD TESTING LABORATORY, LTD.

4416 N.E. 11th Ave., Ft. Lauderdale, FL 33334
954-776-3330



TECHNICAL REPORT

SEYCHELLE SPORTS BOTTLE

Chlorine reduction test
ANSI/NSF STANDARD 42

PROJECT # 98/27

August 19, 1998

**BROWARD TESTING LABORATORY, LTD.**

4416 N.E. 11th Ave., Ft. Lauderdale, FL 33334

954-776-3330

Page #

**PROJECT # 98/27****Seychelle Sports Bottle****Method**

1. Two units were installed in parallel and attached to the manifold at Sample Position #2 (SP2) and Sample Position #3 (SP3). The units were vertically oriented with the filter apparatus at the bottom. The pressure was set at 5 psi and the water flow was adjusted to 315 ml/min. To maintain pressure on the filter assembly, and reduce stress on the bottles, the stop-flow solenoid was located downstream from the test units.
2. The test water was spiked via the proportional feeding device with the appropriate contaminant (Chlorine) to achieve the approximate challenge level of 2.0 mg/L (ppm). Frequent monitoring of the influent water documented in the data sheets demonstrate the challenge levels maintained throughout the test.
3. The system was run with an on/off cycle of 50/50 with 10 min periods.
4. Analysis for Free Chlorine was performed via method 2540C, Standard Methods 18th ed..

Results

All tests were intended to run 200 gallons per the request of the client. The samples were taken at start up and at every 10% of the total capacity (every 20 gallons). The water flow was measure with the same frequency as the samples and the pressure was increased during the test in order to maintain a constant water flow. The test was terminated at 140 gallons.



BROWARD TESTING LABORATORY, LTD.

4416 N.E. 11th Ave., Ft. Lauderdale, FL 33334

954-776-3330

 **nukepills.com**

Chemical • Biological • Radiological

EMERGENCY PROTECTION SUPPLIES

www.nukepills.com 1-866-283-3986

Page #



PROJECT # 98/27

Seychelle Sports Bottle

Results (in parts per million, ppm)

<u>Flow Interval</u> (Gallons)	<u>Challenge</u> <u>Water</u>	<u>Sport Bottle</u> <u>SP2</u>	<u>Sport Bottle</u> <u>SP3</u>
0 (start up)	2.2	BDL	BDL
20	2.2	BDL	BDL
40	1.8	BDL	BDL
60	1.8	BDL	BDL
80	2.0	BDL	BDL
100	2.0	BDL	BDL
120	2.1	BDL	BDL
140	2.0	BDL	BDL

*BDL = "Below Detectable Levels" (<0.1 ppm)

Water Flow (in ml/min)

<u>Flow Interval</u> (Gallons)	<u>Sport Bottle</u> <u>SP2</u>	<u>Sport Bottle</u> <u>SP3</u>	@ Pressure
0 (start up)	315	315	5 psi
20	304	300	5 psi
40	316	314	5 psi
60	314	312	8 psi
80	312	314	12 psi
100	300	302	14 psi
120	306	310	18 psi
140	310	314	18 psi

Corporate Headquarters:

National Testing Laboratories, Ltd., 6555 Wilson Mills Rd., Suite 102, Cleveland, OH 44143, 800-458-3330

**BROWARD TESTING LABORATORY, LTD.**

4416 N.E. 11th Ave., Ft. Lauderdale, FL 33334

954-776-3330

Page #



PROJECT # 98/27

Seychelle Sports Bottle

Executive Summary

A chemical reduction test, based on ANSI/NSF Standard 42, was run to determine and document the chlorine removal effectiveness of Seychelle sports bottles. The bottles proved effective, reducing the chlorine to undetectable levels for 140 of the planned 200 gallon test. The test was terminated at the 140 gallon mark when the filter backpressure increased beyond the physical limits of the bottle (18 psi).

Test Apparatus

The test stand consists of a pressure regulated polished water source, a proportional feeding device, a 120 gallon glass lined reservoir tank and a manifold for mounting test units. Food grade electrical pumps are employed to supply the challenge solutions to the test units. Flow monitoring devices allow us to record flows and mechanical filters ensure particulate reduction of the challenge water to < 1 micron. The test stand has the ability to provide flows between 250-350 milliliters per minute at 2 to 20 psi.

Test Water

Municipal tap water is passed through GAC filters to remove native organics and chlorine. As this polished water flows to the reservoir tank, the test water concentrate solution is fed into the stream in an amount which will maintain the appropriate challenge and background levels at the test units. The test water concentrate is prepared in a 25 liter carboy which is mounted on a magnetic stirrer, utilizing a Teflon coated stirring bar to maintain the required uniformity of the solution. The background and challenge levels are monitored by analyzing aliquot of this water at the designated interval for each test.

In general, each test water is shown to have a pH of 7.5 ± 0.5 , TDS levels between 250 and 500 ppm, temperatures nearly constant at 22° C, turbidity < 1.0 NTU, and free available chlorine at 2.0 ± 0.2 ppm.

**BROWARD TESTING LABORATORY, INC.**

4416 N.E. 11TH AVE., FORT LAUDERDALE, FLORIDA 33334



September 8, 1998

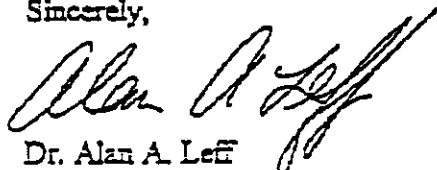
Seychelle Environmental Technology
1046 Calle Recodo Bldg. A
San Clemente, CA 92673

To Whom It May Concern:

Broward Testing Laboratory, Ltd. is certified to analyze drinking water and performance testing of water treatment devices. The certifications extend to test drinking water in 26 states and approved to perform tests on water treatment devices in California, Iowa, Wisconsin and Massachusetts (the only states that regulate such devices).

Broward Testing Laboratory, Ltd. has completed testing on the Seychelle Sports Bottle. ANSI/NSF protocols do not currently exist for this type of water treatment device. However, the tests were performed according to modified versions of ANSI/NSF Standard 53 and ANSI/NSF Standard 42. Under Standard 53 Health Effects, results indicate the bottle to be capable of removing 1,4 dichlorobenzene, a volatile organic compound. Under Standard 42 Aesthetic Effects, results indicate the bottle to be capable of removing chlorine.

Sincerely,



Dr. Alan A. Leff
Vice President, Operations



Gato R. Fiksdal
*Interim Agricultural Commissioner/
Director of Weights and Measures*

COUNTY OF LOS ANGELES

*Department of
Agricultural Commissioner
and Weights and Measures*

*Environmental Toxicology Laboratory
11012 Garfield Avenue, Bldg B
South Gate, California 90280*

September 1, 1998

Carl Palmer
Seychelle Technologies
1046 Calle Recodo, #B
San Clemente, CA 92673

To whom it may concern:

This is to confirm the following facts:

1. That our laboratory is accredited by the State of California Department of Health Services Environmental Laboratory Accreditation Program to test drinking water using EPA-approved methods.
2. That Carl Palmer submitted several water bottle filtration units to our laboratory for testing.
3. That the tests performed by our laboratory measured the reduction in contaminants in spiked drinking water samples after they passed through the filter units.

If you have any questions, please call me at the above number.

Yours truly,

Wilhelmina B. Maloles
Chief, Environmental Toxicology Laboratory
cc: Wasfy Shindy, Deputy Director

