

# AlkaViva UltraHome Whole House Water Filtration System Testing Protocol

## System testing performed 6/8/22 by:

#### QFT LABORATORY, LLC

41 D Germay Drive, Wilmington DE 19804
PHONE 856-583-0445 www.enviroteklab.com
EPA ID # DE00946 NJDEP ID # DE009 IAPMO ID #102



#### QFT Labs was subsequently acquired by IAPMO



IAPMO is accredited by both <u>ANSI</u> and <u>SCC</u> and acts as independent conformity and certifying body. IAPMO performs material and product listing and labeling and is accepted global authority.

\_\_\_\_\_

All testing outlined in this document was performed in a reduced size testing vessel (a **4.5**" x **20.0**" inline housing with an occupied volume of **318.09** in<sup>3</sup>) with a flow rate of **0.5** gal/min. This reduced size and flow rate were set to match an equivalent ratio between the occupied volume of the whole home system with an assumed standard household flow rate of **6.0** gal/min. Flow rate will affect filtration performance.

All influent testing samples were generated utilizing municipal tap water matching the NSF/ANSI outlined general testing water solutions pursuant to the contaminant(s) tested. Contaminant analytes were then spiked to match NSF/ANSI 53, NSF/ANSI 42 protocols and EPA direct protocols, unless otherwise stated directly in the testing documents. If the tap water used to generate testing solutions did not meet the necessary standards for the "General Testing Water," outlined for that NSF/ANSI/EPA protocol, it was modified to concentrations matching these protocols, using analytes outlined in these same aforementioned contaminant protocols.

**500** gallons of general municipal testing solution was passed through the testing unit for each contaminant protocol, in order to condition the testing sample unit as directed. The influent concentration(s) of the necessary contaminant analytes were spiked and analyzed, and **35** liters of this testing solution was then passed through the tested system. The effluent concentration of the listed contaminant(s) was then tested. All influent and effluent contaminant concentration was completed using the matched EPA contaminant testing protocol device and methodology for each contaminant(s).

For each testing protocol, a filtration testing unit was supplied and tested, so that the number of testing units matched the number of listed protocols, and each testing unit was only used on a single protocol, so as not to bias test results via competing ions.

QFT Laboratory tested product and supplied all test results on **6/08/22**. For ease of comprehension, a "user-friendly" summary of the lab reports follows. Original lab reports are available upon request.



#### **Definitions:**

**Influent:** The testing solution tested before it is passed through the tested filter. Concentrations from this solution are utilized to determine reduction % and are set to match standardized protocols.

**Effluent:** The testing solution tested after it is passed through the tested filter. Concentrations from this solution are utilized to determine reduction % and are utilized to determine performance against standardized protocol concentrations.

mg/L: Milligrams per liter, also known as Parts Per Million (ppm)

μg/L: Micrograms per liter, also known as Parts Per Billion (ppb)

**NTU:** Nephelometric Turbidity unit, the standard NSF/ANSI/EPA unit used to measure the turbidity of a fluid or the presence of suspended particles in solution.

**ND** = Non-detectable levels of contaminant(s). This figure indicates contaminant concentration(s) is/are below accurate testing limits for the equipment utilized in the EPA protocol. It occurs because concentrations are lower than the signal-to-noise ratio of the verification and testing equipment utilized.



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
Perfluorinated Acid Compou	unds (Forever Chemicals)				
Perfluorobutane Sulfonate	Unknown	98.0%	1.01	μg/L	0.02
Perfluorodecanoic acid	Cancer (testicular and kidney), Increased liver enzymes, decreased vaccination response, thyroid disorders, pregnancy-induced hypertension and preeclampsia	96.2%	0.52	μg/L	0.02
Perfluorohexane Sulfonate	Effects on the thyroid, reproductive organs and tissues, developing fetus, and kidney	96.2%	0.52	μg/L	0.02
Perfluorohexanoic acid	Cancer (testicular and kidney), High cholesterol, increased liver enzymes, decreased vaccination response, thyroid disorders, pregnancy-induced hypertension and preeclampsia	96.2%	0.52	μg/L	0.02
Perfluorononanoic acid	Increased cancer risk, Reproductive effects, developmental harm, immune system damage, interference with natural hormones, increased cholesterol levels	96.2%	0.52	μg/L	0.02
Perfluorooctane Sulfonate	Cancer, Developmental effects to fetuses during pregnancy or to breastfed infants, liver effects	96.2%	0.52	μg/L	0.02
Perfluorooctanoic Acid	Cancer, Developmental effects to fetuses during pregnancy or to breastfed infants, liver effects	96.2%	0.52	μg/L	0.02
Polytetrafluoroethylene	Cancer (Kidney and testicular), immune system dysfunction, developmental and reproductive harm, thyroid disease, high cholesterol, and liver damage	96.2%	0.52	μg/L	0.02

Heavy Metals								
Iron	Rust colored staining, metalic taste	99.49%	2726	μg/L	14			
Nickel	N/A	99.34%	302	μg/L	2			
Chromium (Total)	Allergic dermatitis	99.01%	302	μg/L	3			
Aluminum	Colored water	98.1%	210	μg/L	4			
Cadmium	Kidney Damage	96.68%	30.1	μg/L	<1			
Manganese	Black staining, bitter metalic taste	94.55%	918	μg/L	50			
Barium	Increased blood preasure	93.56%	202	μg/L	13			
Lead	Developmental delays, kidney damage, high blood pressure	92.57%	148	μg/L	11			



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
Beryllium	Intestinal lesions	>91.8%	6.1	μg/L	<0.5
Mercury	Kidney damage	>91.8%	6.1	μg/L	<0.5
Copper	Metalic taste, blue/green staining	86.08%	3009	μg/L	419
Selenium	Hair or fingernail loss, numbness in fingers or toes, circulatory problems	76.47%	102	μg/L	24
Arsenic	Increased cancer risk, Skin damage, circulatory system problems	56.57%	49.5	μg/L	21.5

<u>Herbicides</u>							
2,4,5-T	Liver problems	>99.9%	150.2	μg/L	<0.1		
Acifluoren	Eye irritant	99.8%	41.7	μg/L	0.1		
2,4-DB	Vomitting, Diarrhea, headaches, confusion, aggression	99.7%	32.7	μg/L	0.1		
Bentazon	Damage to liver and kidneys, increased blood clotting times	99.7%	39.5	μg/L	0.1		
Pentachlorophenol	Increased cancer risk, Liver or kidney problems	99.6%	22.5	μg/L	0.1		
2,4-D	Kidney, liver, or adrenal gland problems	99.5%	22.1	μg/L	0.1		
2,4,5-TP	Liver problems	99.5%	18.6	μg/L	0.1		
Dinosep	Unknown	>99.8%	52.1	μg/L	<0.1		
Picloram	Liver problems	>99.8%	40.0	μg/L	<0.1		
DCPA	Potential carcinogen	>99.8%	42.5	μg/L	<0.1		
Quinclorac	None known	>99.8%	43.5	μg/L	<0.1		
Chloramben	Dermal irritation	>99.6%	28.1	μg/L	<0.1		

<u>Pesticides</u>						
Glyphosate	Kidney problems, reproductive issues	99.9%	804	μg/L	0.1	
Alachlor	Increased risk of cancer, Eye, liver, kidney or spleen problems, anemia	>99.9%	502	μg/L	<0.1	
2,4-D	Kidney, liver, or adrenal gland problems	>99.8%	50.1	μg/L	<0.1	
Aldrin	Kidney problems, reproductive issues	>99.8%	50.5	μg/L	<0.1	
Alpha-BHC	Increased risk of cancer, Eye, liver, kidney or spleen problems, anemia	>99.8%	50.0	μg/L	<0.1	



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
Atrazine	Kidney, liver, or adrenal gland problems	>99.8%	100.4	μg/L	0.1
Beta-BHC	Blood disorders, dizziness, headaches, and possible changes in the levels of sex hormones in the blood	>99.8%	50.1	μg/L	<0.1
Bromacil	Thyroid, adrenal, eye, and thymus effects	>99.8%	50.1	μg/L	<0.1
Butachlor	Severe neurological and cardiovascular outcomes may develop rarely	>99.8%	50.2	μg/L	<0.1
Butylate	N/A	>99.8%	41.1	μg/L	<0.1
Carbofuran	Problems with blood, nervous system, or reproductive system	>99.8%	80.4	μg/L	0.1
Chlorneb	Unknown	>99.8%	50.5	μg/L	<0.1
Chlorpropane	Gastrointestinal distress and pulmonary edema from oral exposure	>99.8%	52.5	μg/L	<0.1
Chlorpyriphos	Runny nose, tears, and increased saliva or drooling. Sweating, headaches, nausea, and dizziness, vomiting, abdominal muscle cramps, muscle twitching, tremors and weakness, and loss of coordination	>99.8%	50.2	μg/L	<0.1
Chlorthalonil	May effect kidneys	>99.8%	51.2	μg/L	<0.1
Cis-Chlordane	Nausea, irritability, headaches, stomach pain, and vomiting, Loss of coordination, tremors, convulsions, and death	>99.8%	50.5	μg/L	<0.1
Cyanizine	Dermatits, acute toxicity	>99.8%	50.5	μg/L	<0.1
Delta-BHC	May cause liver toxicity	>99.8%	50.1	μg/L	<0.1
Dichlorvos	Neurotoxic effects including perspiration, vomiting, diarrhea, drowsiness, fatigue, headache, and at high concentrations, convulsions, and coma	>99.8%	51.4	μg/L	<0.1
Dieldrin	Seizures, headaches, dizziness, GI disturbances	>99.8%	48.2	μg/L	<0.1
Diphenamid	Unknown	>99.8%	49.0	μg/L	<0.1
Disulfoton	Blurred vision, fatigue, headache, dizziness, sweating, tearing, and salivation	>99.8%	50.2	μg/L	<0.1
Endosulfan I	Tremors, seizures, death	>99.8%	42.0	μg/L	<0.1
Endosulfan II	Tremors, seizures, death	>99.8%	40.2	μg/L	<0.1



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
Endosulfan Sulfate	Headache, giddiness, blurred vision, nausea, vomiting, diarrhea, and muscle weakness	>99.8%	51.5	μg/L	<0.1
Endrin	Liver problems	>99.8%	61.3	μg/L	<0.1
Endrin Aldehyde	Unknown	>99.8%	45.1	μg/L	<0.1
Endrin Ketone	Unknown	>99.8%	50.3	μg/L	<0.1
Ethoprop	Cancer, reproductive harm	>99.8%	50.4	μg/L	<0.1
Fenamiphos	Nausea, dizziness, confusion, respiratory paralysis, death	>99.8%	52.1	μg/L	<0.1
Fenarimol	None	>99.8%	50.0	μg/L	<0.1
Fluoridone	None	>99.8%	50.1	μg/L	<0.1
Gamma-BHC (Lindane)	Liver and kidney problems	>99.8%	50.2	μg/L	<0.1
Heptachlor	Risk of cancer, Liver damage	>99.8%	51.4	μg/L	<0.1
Heptachlor Epoxide	Risk of cancer, Liver damage	>99.8%	50.2	μg/L	<0.1
Hexachlorobenzene	Increased risk of cancer, Liver, kidney and reproductive problems	>99.8%	50.1	μg/L	<0.1
Hexachlorocyclopentadiene	Kidney and stomach problems	>99.8%	52.0	μg/L	<0.1
Methoxychlor	Reproductive difficulties	>99.8%	50.1	μg/L	<0.1
Metolachlor	May cause cancer	>99.8%	50.2	μg/L	<0.1
Metribuzin	Unknown	>99.8%	50.2	μg/L	<0.1
Molinate	Unknown	>99.8%	50.1	μg/L	<0.1
p,p'-DDD	Unknown	>99.8%	44.1	μg/L	<0.1
p,p'-DDE	Unknown	>99.8%	56.0	μg/L	<0.1
p,p'-DDT	Headaches, nausea, convulsions	>99.8%	60.5	μg/L	<0.1
PCB's	Increased risk of cancer, Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties	>99.8%	10.4	μg/L	<0.1
Propachlor	None	>99.8%	50.2	μg/L	<0.1
Simazine	Problems with blood	>99.8%	50.1	μg/L	<0.1
Toxaphene	Increased risk of cancer, Kidney, liver, and thyroid problems	>99.8%	15.1	μg/L	<0.1
Trans-Chlordane	GI distress and neurological symptoms	>99.8%	50.1	μg/L	<0.1



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
Volatile Organi Compounds	(VOCs)				
1, 1, 1-Trichloroethane	Liver, nervous system and circulatory problems	>99.9%	84.8	μg/L	<0.1
1, 1, 2, 2-Tetrachloroethane	Effects on liver and respiratory systems, nervous system	>99.9%	81.2	μg/L	<0.1
1, 1, 2-Trichloroethane	Liver, kidney, or immune system problems	>99.9%	110.1	μg/L	<0.1
1, 1-Dichloroethane	Increased risk of cancer	>99.9%	92.3	μg/L	<0.1
1, 1-Dichloroethene	Increased risk of cancer	>99.9%	78.1	μg/L	<0.1
1, 2-Dichlorobenzene	Liver, kidney, or circulatory system problems	>99.9%	80.0	μg/L	<0.1
1, 2-Dichloroethane	Increased risk of cancer	>99.9%	88.5	μg/L	<0.1
1, 2-Dichloropropane	Increased risk of cancer	>99.9%	80.1	μg/L	<0.1
1, 3-Dichloropropane	Increased risk of cancer	>99.9%	92.2	μg/L	<0.1
Benzene	Increased risk of cancer, Anemia, decrease in blood platelets	>99.9%	80.0	μg/L	<0.1
Bromochloromethane	Unknown	>99.9%	80.8	μg/L	<0.1
Carbon Tetrachloride	Increased risk of cancer, Liver problems	>99.9%	88.0	μg/L	<0.1
Chlorobenzene	Liver or kidney problems	>99.9%	77.2	μg/L	<0.1
cis-1, 2-Dichloroethene	Unknown	>99.9%	181.5	μg/L	<0.1
cis-1, 3-Dichloropropene	Inhalation causes mucous membrane irritation, chest pain, and breathing difficulties.	>99.9%	79.5	μg/L	<0.1
Ethylbenzene	Liver or kidneys problems	>99.9%	88.2	μg/L	<0.1
m and p-Xylene	Nervous system damage	>99.9%	80.3	μg/L	<0.1
MTBE	Potential carcinogen	>99.9%	73.4	μg/L	<0.1
Naphthalene	Hemolytic anemia, damage to the liver, and neurological damage	>99.9%	160.5	μg/L	<0.1
Styrene	Liver, kidney, or circulatory system problems	>99.9%	150.0	μg/L	<0.1
Tetrachloroethene	Likely carcinogen	>99.9%	85.6	μg/L	<0.1
Toluene	Nervous system, kidney, or liver problems	>99.9%	78.3	μg/L	<0.1
trans-1, 2-Dichloroethene	Unknown	>99.9%	78.2	μg/L	<0.1
trans-1, 3-Dicloropropene	Unknown	>99.9%	79.9	μg/L	<0.1
Trichloroethene	Dizziness, headaches, confusion, euphoria, facial numbness, and weakness when inhaled	>99.9%	180.2	μg/L	<0.1
1, 3-Dichlorobenzene	Unknown	>99.8%	40.2	μg/L	<0.1



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
1, 4-Dichlorobenzene	Effects to liver, skin and central nervous system	>99.8%	40.0	μg/L	<0.1
Chloromethane	Potential carcinogen	>99.8%	50.2	μg/L	<0.1
Dibromo-3-Chloropropane	Increased risk of cancer, Reproductive difficulties	>99.8%	50.2	μg/L	<0.1
Ethylene Dibromide (EDB)	Increased risk of cancer, Problems with liver, stomach, reproductive system, or kidneys	>99.8%	44.8	μg/L	<0.1
Hexachlorobutadiene	Potential carcinogen	>99.8%	44.2	μg/L	<0.1
o-Xylene	Nervous system damage	>99.8%	40.2	μg/L	<0.1
Vinychloride	Unknown	>99.8%	42.3	μg/L	<0.1
Chloroethane	Temporary feelings of drunkenness, and at higher levels, lack of muscle coordination and unconsciousness.	>99.7%	29.1	μg/L	<0.1
Dibromoacetonitrile	Damage to DNA	>99.6%	24.6	μg/L	<0.1
Flourotrichloromethane	Irregular heartbeat	>99.6%	28.3	μg/L	<0.1
1, 2, 3-Trichloropropane	Potential carcinogen	>99.5%	19.2	μg/L	<0.1
Bromoacetonitrile	Build-up of fluid in lungs	>99.5%	20.5	μg/L	<0.1
Bromomethane	Kidney and liver damage	>99.5%	21.3	μg/L	<0.1
Dibromomethane	Unknown	>99.5%	18.4	μg/L	<0.1
Methylene Chloride	Harms eyes, skin liver and heart	>99.4%	18.0	μg/L	<0.1
1, 2, 3-Trichlorobenzene	Changes to adrenal glands	>99.3%	14.2	μg/L	<0.1
1, 2, 4-Trichlorobenzene	Changes to adrenal glands	>99.3%	13.6	μg/L	<0.1
1,1,1-Trichloro-2-	Unknown	>99.3%	14.5	μg/L	<0.1
Trichloroacetonitrile	Unknown	>99.3%	15.0	μg/L	<0.1
Bromobenzene	Kidney and liver damage	>99.2%	12.5	μg/L	<0.1
4-Chlorotoluene	Increased risk of cancer	>99.1%	10.9	μg/L	<0.1
1, 2, 4-Trimethylbenzene	Causes problems with muscle control, anxiety and confusion	>99.0%	9.90	μg/L	<0.1
2, 2-Dichloropropane	Increased risk of cancer	>99.0%	10.0	μg/L	<0.1
2-Chlorotoluene	Increased risk of cancer	>99.0%	10.0	μg/L	<0.1
4-Isopropyltoluene	Unknown	>99.0%	10.3	μg/L	<0.1
Dichloroacetonitrile	Damage to DNA	>99.0%	9.92	μg/L	<0.1
n-Butylbenzene	Unknown	>99.0%	10.2	μg/L	<0.1
Tert-Butylbenzene	Unknown	>99.0%	10.1	μg/L	<0.1
1, 3, 5-Trimethylbenzene	Increased risk of cancer, Neurological effects	>98.9%	9.5	μg/L	<0.1



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
n-propylbenzene	Cuases headache, nausea, vomiting, dizziness, drowsiness and fainting	>98.9%	9.37	μg/L	<0.1
1, 1-Dichloropropane	Increased risk of cancer	>98.8%	8.67	μg/L	<0.1
1,1-Dichloro-2-propanone	Increased risk of cancer	>98.7%	7.50	μg/L	<0.1
sec-Butylbenzene	Increased risk of cancer	>98.7%	7.88	μg/L	<0.1
Isopropylbenzene	Cuases headaches, dizziness, drowsiness, slight incoordination and unconsciousness	>98.5%	6.78	μg/L	<0.1

Semivolatile Compounds					
Dalapon	Minor kidney changes	>99.96%	270.2	μg/L	<0.1
Dicamba	Increased cancer risk	>99.9%	150.7	μg/L	<0.1
Diclorprop	Unknown	>99.9%	150.2	μg/L	<0.1
1,2,4-Trichlorobenzene	Changes in adrenal glands	>99.8%	48.4	μg/L	<0.1
1,2-Dichlorobenzene	Liver, kidney, or circulatory system problems	>99.8%	49.0	μg/L	<0.1
1,3-Dichlorobenzene	Liver, kidney, or circulatory system problems	>99.8%	49.9	μg/L	<0.1
1,4-Dichlorobenzene	Liver, kidney, or circulatory system problems	>99.8%	50.1	μg/L	<0.1
2,2-Dimethylphenol	Unknown	>99.8%	48.1	μg/L	<0.1
2,2-Oxybis(1-chloropropane	Unknown	>99.8%	49.2	μg/L	<0.1
2,4,6-Trichlorophenol	Increased cancer risk. Restlessness, weakness, rapid breathing, tremors, shaking, seizures, coma and even death.	>99.8%	50.1	μg/L	<0.1
2,4-Dichlorophenol	Increase risk of cancer, liver damage	>99.8%	48.9	μg/L	<0.1
2,4-Dinitrophenol	Nausea, vomiting, sweating, dizziness, headaches, and loss of weight	>99.8%	50.1	μg/L	<0.1
2,4-Dinitrotoluene	Reproductive harm	>99.8%	49.2	μg/L	<0.1
2,6-Dinitrotoluene	Reproductive harm	>99.8%	48.5	μg/L	<0.1
2-Chloronaphthalene	None known	>99.8%	49.4	μg/L	<0.1
2-Chlorophenol	Liver and kidney damage	>99.8%	49.0	μg/L	<0.1
2-Nitrophenol	Interfere with the ability of the blood to carry Oxygen causing headache, fatigue, dizziness, and a blue color to the skin and lips	>99.8%	48.8	μg/L	<0.1
4-Bormophenyl phenyl	Unknown	>99.8%	47.8	μg/L	<0.1



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
4-Chloro-3-methylphenol	Unknown	>99.8%	50.6	μg/L	<0.1
4-Chlorophenyl phenyl	Irritates skin and eyes	>99.8%	49.8	μg/L	<0.1
4-Nitrotoluene	Headache, cyanosis, debilitation, vertigo, ataxia, respiratory disturbances, tachycardia and vomiting	>99.8%	47.5	μg/L	<0.1
Acenaphthylene	Unknown	>99.8%	50.1	μg/L	<0.1
Anthracene	Headaches, nausea, loss of appetite, inflammation or swelling of the stomach and intestines	>99.8%	49.5	μg/L	<0.1
Benzo(a) anthracene	Potential carcinogen, reproductive harm	>99.8%	50.3	μg/L	<0.1
Benzo(a) pyrene	May cause the skin to thicken and darken, and for pimples to appear	>99.8%	50.5	μg/L	<0.1
Benzo(g,h,i) perylene	Reproductive problems, birth defects, damage to skin and immune system	>99.8%	50.2	μg/L	<0.1
Benzo(k) anthracene	Unknown	>99.8%	50.3	μg/L	<0.1
Benzyl butyl phthalate	Irritates the eyes, nose, and throat	>99.8%	50.9	μg/L	<0.1
Bis(2-	Severely irritates skin, eyes, and mucous membranes, may be toxic	>99.8%	47.1	μg/L	<0.1
chloroethoxy)methane	when ingested	/33.0/0	47.1	μg/ L	<b>\0.1</b>
Bis(2-chloroethyl) ether	Irritates the nose and throat	>99.8%	51.6	μg/L	<0.1
Bis(2-ethylhexyl) phthalate	Potential carcinogen	>99.8%	52.6	μg/L	<0.1
Chrysene	Increased cancer risk, potential reproductive harm	>99.8%	50.5	μg/L	<0.1
Dibenzo(a,h)anthracene	Potential liver and kidney damage	>99.8%	50.3	μg/L	<0.1
Diethylphthalate	Headache, dizziness and nausea, numbness, "pins and needles," and/or weakness in the hands and feet	>99.8%	50.1	μg/L	<0.1
Dimethylphthalate	Unknown	>99.8%	49.2	μg/L	<0.1
Di-n-butylphthalate	None known	>99.8%	50.3	μg/L	<0.1
Dinitro-o-cresol	Headache, nausea, stomach pain, and rapid heartbeat, fever, trouble breathing, coma and death	>99.8%	48.5	μg/L	<0.1
Di-n-octyl phthalate	Liver damage, skin and eye irritant	>99.8%	50.1	μg/L	<0.1
Diphenylamine	Liver, kidney and bladder damage	>99.8%	73.2	μg/L	<0.1
Fluoranthene	Kidney disease and liver damage	>99.8%	50.4	μg/L	<0.1
Fluorene	Increased risk of cancer, damage to immune system	>99.8%	49.8	μg/L	<0.1



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
Haxachlorobenzene	Weakness, tremors, and convulsions, skin sores, and liver and thyroid effects, reproductive harm	>99.8%	48.5	μg/L	<0.1
Hexachlorobutadiene	Liver and kidney damage	>99.8%	49.6	μg/L	<0.1
Hexachlorocyclopentadiene	Kidney or stomach problems	>99.8%	50.9	μg/L	<0.1
Hexachloroethane	Central nervous system depresant, damage to liver, kidneys and nuerological systems	>99.8%	48.4	μg/L	<0.1
Indeno(1,2,3-cd) pyrene	Potential carcinogen	>99.8%	50.8	μg/L	<0.1
Isophrone	Dizziness, fatigue, and depression	>99.8%	50.0	μg/L	<0.1
Naphthalene	Hemolytic anemia, damage to the liver, and neurological damage	>99.8%	48.3	μg/L	<0.1
Nitrobenzene	Effects on blood	>99.8%	48.9	μg/L	<0.1
N-Nitrosodimethylamine	Liver damage	>99.8%	50.2	μg/L	<0.1
N-Nitroso-di-n-propylamine	Potential carcinogen	>99.8%	50.2	μg/L	<0.1
Pentachlorophenol	Increased cancer risk, Liver or kidney problems	>99.8%	50.3	μg/L	<0.1
Phenantherene	Damage to immune system	>99.8%	49.8	μg/L	<0.1
Phenol	Irritating to the skin, eyes, and mucous membranes	>99.8%	50.1	μg/L	<0.1
Pyrene	Increased risk of cancer	>99.8%	49.6	μg/L	<0.1
3,5-Dichlorobenzoic	Unknown	>99.7%	30.9	μg/L	<0.1
Acenaphthene	May affect kidneys and liver	>99.7%	35.9	μg/L	<0.1
PCB's	Increased risk of cancer, Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties	>99.0%	10.4	μg/L	<0.1

Emerging Compounds					
ТСРР	Potential Carcinogen, liver and kidney damage	100.0%	4380	μg/L	<2
Carbamazepine	Allergic reactions	99.9%	2926	μg/L	<2
DEET	Seizures, uncoordinated movements, agitation, aggressive behavior, low blood pressure, skin irritation	99.9%	1797	μg/L	2
Metolachlor	Unknown	99.9%	2520	μg/L	<2
TCEP	Impairs human fertility	99.9%	1921	μg/L	<2
Acetaminophen	Liver damage	99.4%	332	μg/L	2



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
Naproxen	Liver damage	99.2%	240	μg/L	<2
Nonylphenol	Endocrine disruption, reproductive harm	99.2%	2600	μg/L	20
Caffeine	Insomnia, nervousness, restlessness, nausea, increase heart rate	98.9%	185	μg/L	2
Ciplofoxacin	Swollen or ruptured tendons, nerve damage and cental nervous system side effects	98.7%	151	μg/L	<2
Testosterone	Developmental effects	98.7%	156	μg/L	2
Trimethoprim	Unknown	98.6%	143	μg/L	<2
Bisphenol A	Reproductive, developmental, and systemic toxicant	98.5%	2014	μg/L	31
Linuron	Increased cancer risk	98.1%	107	μg/L	<2
Atenolol	Prenatal toxicity	97.9%	96	μg/L	<2
Ibuprofen	Liver damage	97.6%	83	μg/L	<2
Meprobamate	Muscle relaxant, unknown log term effects	96.7%	61	μg/L	<2
Estradiol	Impacts estrogen production	91.3%	23	μg/L	<2

<u>Trihalomethanes</u>						
Bromodichloromethane	Increased risk of cancer, Liver, kidney or central nervous system problems	99.9%	84.8	μg/L	0.1	
Bromoform	See above	99.9%	85.2	μg/L	0.1	
Chlorodibromomethane	See above	99.9%	82.6	μg/L	0.1	
Total Trihalomethanes	See above	99.6%	339.5	μg/L	1.2	
Chloroform	See above	99.0%	86.9	μg/L	0.9	

Disinfectants and other Anions					
Chlorine	Eye/nose irritation, stomach discomfort	98.9%	1.8	mg/L	0.02
Chloramine	Eye/nose irritation, stomach discomfort, anemia	98.1%	3.2	mg/L	0.06
Chloride	Eye/nose irritation, stomach discomfort	17.6%	170	mg/L	140
Nitrate	Danger to infants under 6 months of age, Blue Baby Syndrome, shortness of breath	16.0%	25	mg/L	21
Sulfate	Bitter tasting water	4.0%	603	mg/L	579



Drinking Water Contaminant	Potential Health/Aesthetic Effects	Percent Reduction	Influent Contaminant Level	Unit of Measure	Effluent Contaminant Level
Fluoride	Bone disease (pain and tenderness of the bones), Children may get	0.0%	7.8	mg/L	7.8
	mottled teeth	0.070	7.0	IIIB/ L	7.0

Flow Rate: 1.0 gpm

Cycle: 20 min on: 20 min off Total volume tested: 300