

PFOS/PFOA REDUCTION TESTING 080124

PFOS/PFOA contaminants include a large number of related compounds that vary widely in their physical and chemical properties and their presence in the environment. Toxicological studies and public awareness have raised concerns about the potential health effects of these compounds. Understanding and regulation of PFOS/PFOA compounds is rapidly evolving and General Ecology, Inc. has conducted preliminary investigation into the removal of specific compounds from drinking water.

Independent testing of Seagull® IV systems with RS-1SGE cartridges was conducted to demonstrate and document the effectiveness of our “Structured Matrix” purification technology to remove specific PFOS/PFOA contaminants. Testing was conducted according to NSF/ANSI Standard 53 protocol for Total PFAS Reduction.

Testing was conducted by NSF International at:

NSF Laboratories
789 N. Dixboro Rd.
Ann Arbor MI 48105 USA

NSF Reduction Requirements:

NSF Reduction Requirements			
Contaminant	Influent (ng/L)	Effluent (ng/L)	% Reduction
PFOS	1000	20.00	98.00%
PFOA	500	20.00	96.00%
PFDA	10	N/A	N/A
PFHpA	40	20.00	50.00%
PFHxS	300	20.00	93.33%
PFNA	50	6.00	88.00%

The tested systems effectively reduced the average PFOS/PFOA influent challenge of 1,400 ng/L and the average combined total challenge of 1,820 ng/L by greater than 99% throughout the 1,000-gallon rated capacity of the cartridges.

Performance results are typical of all RS type purification cartridges.

Results should be used as guidance in selecting a water treatment system but are not a guarantee of performance in any particular application.

Summary of NSF Testing of RS-1SGE cartridges (2) for PFAS Reduction

Standard Protocol: NSF/ANSI 53-2022

Cartridge: RS-1SGE

Flow Rate: 1 gpm

Capacity: 1000 gal

Operating cycle: 50/50

Start					
	Influent (ng/L)	Effluent 1 (ng/L)	Effluent 2 (ng/L)	Average Effluent (ng/L)	Average % Reduction
Combined PFOS/PFOA	1400	0	0	0	100.00%
PFDA	8	0	0	0	100.00%
PFHpA	51	0	0	0	100.00%
PFHxS	310	0	0	0	100.00%
PFNA	53	0	0	0	100.00%
Total	1822	0	0	0	100.00%

500 Gallons					
	Influent (ng/L)	Effluent 1 (ng/L)	Effluent 2 (ng/L)	Average Effluent (ng/L)	Average % Reduction
Combined PFOS/PFOA	1400	0	0	0	100.00%
PFDA	9	0	0	0	100.00%
PFHpA	51	0	0	0	100.00%
PFHxS	310	0	0	0	100.00%
PFNA	60	0	0	0	100.00%
Total	1830	0	0	0	100.00%

1000 Gallons					
	Influent (ng/L)	Effluent 1 (ng/L)	Effluent 2 (ng/L)	Average Effluent (ng/L)	Average % Reduction
Combined PFOS/PFOA	1400	0	0	0	100.00%
PFDA	8	0	0	0	100.00%
PFHpA	47	0	3	1.5	96.81%
PFHxS	300	0	0	0	100.00%
PFNA	55	0	0	0	100.00%
Total	1810	0	3	1.5	99.92%