



Samples: In-Tec Water Products 12 pleat GuzzyWater Bottle filter BCS ID 1108076
 Analysis Parameter: MS-2 Bacteriophage, Raoultella terrigena and 3.0 µM Fluorescent Beads as Cryptosporidium parvum Oocyst Surrogate
 Performed and Analyzed by: George Lukasik, Ph.D. August 30, 2011

Water Sample	3.0 µM Fluorescent Beads(1) Cryptosporidium Oocyst Surrogate (% Removal)	Raoultella terrigena cfu/ml(2) (% Removal)	MS-2 Bacteriophage (% Removal)
Filter Influent Water*	240,000	8.8002	1,100(3)
Filter Effluent Water*	<5.0 (99.998%)	<0.5 (>99.994%)	<0.5 (>99.96%)

1) Three micron green fluorescent latex beads (Fluoresbrite® YG Microspheres 3.00µm, PolySciences Inc. PA, USA) were used as surrogates for Cryptosporidium oocysts. The beads were enumerated by fixing onto SingleSpot Slides (IDEXX, USA) and viewing by UV fluorescence microscopy.

(2) Raoultella terrigena (ATCC 33257) was obtained from ATCC and propagated Tryptic Soy Agar (TSA, Becton Dickinson, USA). The bacteria were enumerated as colony forming units (cfu) following incubation at 36.5°C for 24 hours.

(3) Bacteriophage MS-2 was enumerated using E. coli C300 as a host using the single layer plaque assay agar procedure as per EPA 1602.

*5 liters of City of Gainesville (FL) tap water were passed through the filter at a flow rate of 10 ml/ second using 90 mm HG provided by a diaphragm pressure pump (Stratagene Pressure Station). The water was passed by filling the sport bottle with water and attaching the filter then inverting. The bottom of the bottle was attached to the pressure source and thus the water was passed through the filter. Five hundred milliliters of Class I ASTM waters was placed into a sterile beaker. To the water, 10 µl of an overnight culture of Raoultella terrigena, 10 µl of MS2 bacteriophage stock, and 50 µl of Fluoresbrite® were added. This solution was agitated and placed into the sport bottle, connected to the filter top, and the solution was passed through the filter at 10 ml/sec using 90 mm HG pressure. The effluent was collected and assayed for the respective species. A sample of the water in the bottle was removed prior to the beginning of the challenge study and at the end. The number of microorganisms and beads was determined and is reported as the "Filter Influent Water" and "Filter Effluent Water". All analysis was conducted in duplicate.

The results presented pertain only to the samples analyzed and Identifier number indicated. They are not representative nor are they indicative of a process. Positive and negative controls were performed as outlined in the Method and as per Good Laboratory Practices. All samples were collected and analyzed in duplicated. All analysis was performed in accordance to NELAC accreditation standards that are equivalent to ISO 17025.

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 FL DOH Laboratory #E82924, EPA# FL01147



This product is for use with municipally treated water only!