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Client
Innovative Membrane Technologies B.V.
Mast 23
3891 KE Zeewolde
The Netherlands

Report on Microbiological retention tests of IMT Ultrafiltration 100-150 KD Capillary 7Bore Membrane

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General
Three ultrafiltration membrane cartridges 220UF/MB/TAP, containing IMT Ultrafiltration 100-150 KD capillary 7Bore membranes. The membranes were tested according to the test conditions as specified in NSF P231, at the ISO 17025 certified Vitens Laboratory, Leeuwarden, The Netherlands. Tests were performed in order to determine the bacterial- and virusretention of the membrane for *E.coli*, *Klebsiella terrigena* and MS2-bacteriophage.

Used method.
Testing was performed on three cartridges on November 4, 2009.
The feed and filtrated samples were analyzed by Vitens Laboratory within 24 hours after the sample collection. *E. coli* and *Klebsiella terrigena* were analyzed according NEN-EN-ISO 9308-1. The MS2-bacteriophage was analyzed according NEN-EN-ISO 10705-1.

Results

Organism	Concentration feed	Concentration permeaat (cfu/l)	Reduction (%)	Reduction (log)
E. coli	1.4 x10^{10} cfu/l	< 10 cfu/l	>99.9999999	> 9.15
Klebsiella terrigena	2.2 x10^{9} cfu/l	< 10 cfu/l	> 99.999999	> 8.34
MS2-bacteriophage	2.2 x10^{7} pfu/l	< 100 pfu/l	> 99.999	> 5.34

cfu/l = colony forming units per liter
pfu/l = plaque forming units per liter

Vitens Laboratory

Signature