

Viral Filtration Efficiency (VFE) at an Increased Challenge Level Final Report

Test Article: 100756-NT/120912 Pulmonary Function Test Filter/Technostat T070 Filter Media
 Purchase Order: 1757
 Laboratory Number: 668887
 Study Received Date: 20 Dec 2012
 Test Procedure(s): Standard Test Protocol (STP) Number: STP0010 Rev 05

Summary: This procedure was performed to evaluate the VFE at an increased challenge level of the test article. A suspension of Φ X174 bacteriophage was delivered to the test article to determine filtration efficiency. A challenge level of greater than 10^6 plaque-forming units (PFU) was pumped through a nebulizer using a peristaltic pump at a controlled flow rate and a fixed air pressure. The aerosol droplets were generated in a glass aerosol chamber and drawn through the test article into all glass impingers (AGIs) in parallel. The challenge was delivered for a one minute interval and sampling through the AGIs was conducted for two minutes to clear the aerosol chamber.

This test procedure was modified from Nelson Laboratories, Inc., standard VFE test in order to employ a more severe challenge than would be experienced in normal use. All test method acceptance criteria were met.

Challenge Flow Rate: 30 Liters per Minute (L/min)
 Area Tested: Entire Test Article
 Side Tested: ~29 mm OD Port

Results:

Test Article Number	Total PFU Recovered	Filtration Efficiency (%)
1	2.1×10^3	99.917

Challenge Level: 2.5×10^6 PFU
 Mean Particle Size (MPS): 2.7 μ m



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Study Completion Date

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