

## Virus Filtration Efficiency Test (VFE) at an Increased Challenge Level Final Report

Test Article: Spirometry filter TUBE code 30811  
 Purchase Order: 30/2010  
 Laboratory Number: 530926  
 Study Received Date: 02 Jun 2010  
 Test Procedure(s): Standard Test Protocol (STP) Number: STP0010 Rev 03

**Summary:** This procedure was performed to evaluate the virus filtration efficiency (VFE) at an increased challenge level of the test article. A challenge level of greater than  $10^6$  plaque-forming units (PFU) was delivered to each test article to determine filtration efficiency. This test procedure was modified from Nelson Laboratories, Inc., standard VFE test in order to employ a more severe challenge than would be expected in normal use. All test method acceptance criteria were met.

Challenge Flow Rate: 30 Liters per minute (LPM)  
 Sample Area Tested: Entire Test Article

**Results:**

Unit Number	Total PFU Recovered	Filtration Efficiency %
1	$1.3 \times 10^3$	99.950
2	$5.9 \times 10^2$	99.976
3	$6.7 \times 10^2$	99.973

Challenge Level:  $2.5 \times 10^6$  PFU  
 Mean Particle Size (MPS): 3.3  $\mu$ m

  
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 Study Completion Date