



Suregard Filtration Efficiency

Product Reference

BHC-MASK-FILTER

Dear valued customers,

With the hospital environment increasingly becoming a potential source of infection, and a higher risk of infectious disease, Bird Healthcare has received numerous requests for Suregard filtration efficacy in relation to Coronavirus disease-2019 (COVID-2019), MERS-Coronavirus (MERS-CoV) and SARS-Coronavirus (SARS-CoV), currently causing large scale infection in several countries worldwide.

We have not specifically validated our Suregard filters for removal of the COVID-2019, MERS-CoV and SARS-CoV. However, Bird Healthcare in conjunction with our filter material supplier, have had the filter material tested at both the Health Protection Authority in the UK and Nelson Laboratories USA. The filters passed both BFE (Bacterial Filtration Efficiency) and VFE (Viral Filtration Efficiency) tests using Staphylococcus Aureus (*ATCC #6538) and bacteriophage PHI X174 (*Dimension about 0.025 μm) with results indicating that these all offer an effective barrier against bacteria and viruses up to 99.9999% (documents available upon request).

SIGNIFICANCE OF % REMOVAL OF BACTERIA / VIRUSES

Number of organisms challenging filter	Number of organisms passing through	% Efficiency
1 000 000	100 000	90
	10 000	99
	1 000	99.9
	100	99.99
	23	99.997
	10	99.999
	1	99.9999

Therefore a 99.999% filter is 10 times more efficient than 99.99% and 99.9999% is 100 times more efficient than 99.99%

Tested at Vickers industrial estate, mellishaw lane, morecambe la3 3 en, u.k

These reports have shown that the filter material utilised in Suregard, serves as a barrier to contaminated body fluids. Moreover, the filter material utilised in Suregard has been validated to remove a range of clinically relevant bacteria and viruses, including, but not limited to Influenza A virus (H1N1: 0.08-0.12 μm), HIV(0.08 μm), Hepatitis C virus(0.8 μm), Adenovirus (0.07 μm), Cytomegalovirus (0.1 μm), Orthmyxovirus (0.12 μm) and Mycobacterium tuberculosis(1.0 μm).

COVID-2019, MERS-CoV and SARS-CoV are Coronavirus species (sizes range from 0.06 to 0.2 μm). Therefore, we believe these results indicate that our filters will prevent transmission of those Coronaviruses mentioned above.

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