

Virus Removal Test Report

Evaluation of the effectiveness on MicronSolo & SafePlus MicronRoll in removing bovine coronavirus (BCoV) from surfaces

To whom it may concern

The objective of the test method was to evaluate the virus removal performance of the Vileda Professional MicronSolo cloth and SafePlus MicronRoll Mini & Maxi on PVC floor covering plates against bovine coronavirus (BCoV) as surrogate of SARS-CoV-2 coronavirus.

The tests were carried out in May 2020, in the external laboratory Dr. Brill + Partner GmbH, Institute for Hygiene and Microbiology, Norderoog 2, DE - 28259 Bremen.

The test method is based on EN 16615:2015, a quantitative test method for the evaluation of bactericidal and yeasticidal activity on nonporous surfaces with mechanical action employing wipes in the medical area (4-field test).

The test results show that after wiping with the cloth soaked with 40 g purified water,

- no residual virus could be detected on all test fields
- Reduction factor of the two test runs was $> 2,31 \log$ (99.51% reduction) on field T1
- Accumulation factor (AF) of the test field T2-T4 is on average $< 1,50 \log$ TCID₅₀ /ml and in a sum $< 1,98 \log$ TCID₅₀/ml.

Due to the low initial virus titre, it was not possible to reach a 4 log reduction (99.99%) with bovine coronavirus after 10 minutes under clean conditions on field T1 in this quantitative test.

Conclusion

The MicronSolo cloth and SafePlus MicronRoll of Vileda Professional soaked with 40 mL purified water achieved a 99,51 % (log 2.31) reduction of bovine coronavirus (BCoV) with no detectable residual virus.

Date: 17th July 2020

Weinheim, Germany

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Understanding the Dr Brill & Dr Steinmann Virus removal reports

Q. Why did you test on Bovine Coronavirus (BCoV) and not SARS-CoV-2 (COVID-19)?

A. There are several reasons:

- EN test methods already exist for removal of Bovine Coronavirus (BCoV) as it causes diarrhoea in calves (20% lethality) making a test protocol economically relevant for cattle breeding
- BCoV does not jump to humans, so it is safe to handle for testing institutes
- Only a limited number of laboratories in the world can currently handle SARS-CoV-2 (COVID-19)

Q. Is it misleading to use tests on Bovine Coronavirus (BCoV) in respect to COVID-19 (SARS-CoV-2)?

A. No, they are directly comparable viruses:

- Bovine coronavirus BCoV belongs biologically to the same subfamily and generic group as SARS-CoV-2
- Bovine coronavirus BCoV is comparable in size, structure and how it is enveloped

Q. You claim 99.51% removal of BCoV virus but none of the tables show this figure

A. In table 6 Results and Section 8 it states the MV (mean value) is a Log 2.31 reduction, mathematically this is 99.51%

Q. The conclusion says the tested product was not able to demonstrate effectiveness on field 1 against bovine coronavirus after an exposure time of 10 minutes under clean conditions.

A. This relates to the test method and not the product tested

The test method didn't allow to achieve log 5 reduction and as such is not considered valid, resulting in the comment "not considered effective" for the product tested.

Q. Why do you state "99.51%" and not 100% if there is "no detectable residual virus"?

A) Test protocols do not allow the statement "100% removed" even if there is no detectable virus left behind (the institute actually measured ZERO residual virus after wiping).

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