

EXECUTIVE SUMMARY

STUDY NUMBER: 2006477-450A

TITLE: EVALUATION OF VIRUCIDAL PROPERTIES OF TREATED FABRIC MATERIAL WHEN CHALLENGED WITH CORONAVIRUS

SPONSOR: N&E INNOVATIONS PTE LTD
463 MacPherson Road,
#02-01, Singapore 368181

TESTING FACILITY: BIOSCIENCE LABORATORIES, INC.
1755 South 19th Avenue
Bozeman, Montana 59718

STUDY INITIATION DATE: 07/05/2020

This study evaluated the virucidal properties of one treated fabric test material when challenged with Human Coronavirus strain OC43 (Beta-coronavirus, ZeptoMetrix Corp. #0810024CF). Samples of treated fabric were evaluated unwashed and after 15 hand washes following 1-minute, 5-minute, 15-minute, and 60-minute exposures to the virus. **This Final Report, 2006477-450A, presents the results of testing of washed and unwashed treated fabric following a 60-minute exposure time to Coronavirus.** Separate Final Report was prepared for results of testing of washed and unwashed treated fabric following 1-minute, 5-minute, and 15-minute exposure time and is presented as Final Report 2006477-450B. Testing was based on the International Organization for Standardization (ISO) method ISO 18184:2019(E), *Textiles — Determination of antiviral activity of textile products*. All testing was performed in accordance with Good Laboratory Practices, as specified in 21 CFR Part 58, with the exception that the characterization of the identity, strength, purity, composition, stability, and solubility of the treated test material and untreated control material remained the responsibility of the Study Sponsor and was not performed by the Testing Facility (GLP 58.105 and GLP 58.113).

Table 1 presents the summary of test results for the 60-minute exposure time.

Table 1: Summary of Test Results for Vi-Mask-Treated Fabric Washed and Unwashed

Test Fabric Designation	Timed Exposure	Log ₁₀ TCID ₅₀ Reduction	Standard Deviation	Percent Reduction
Vi-Mask-Treated Lot#001	60 minutes	2.4	0.25	99.6
Vi-Mask-Treated Lot#001 (Washed 15 times)		2.0	0.29	99.0

STUDY CONCLUSION:

1. Under conditions of this evaluation, Test Material, Vi-Mask-Treated lot#001, reduced infectivity of Coronavirus OC43 by an average of 2.4 log₁₀ (99.6%) following a 60-minute exposure. In accordance with ISO18184, the Test Material, Vi-Mask-Treated, may be categorized to have a Good antiviral effect (≥ 2.0 log₁₀) following a 60-minute exposure.
2. Under conditions of this evaluation, Test Material, Vi-Mask-Treated lot#001 (hand washed 15 times), reduced infectivity of Coronavirus OC43 by an average of 2.0 log₁₀ (99.0%) following a 60-minute exposure. In accordance with ISO18184, the Test Material, Vi-Mask-Treated (washed 15 times), may be categorized to have a Good antiviral effect (≥ 2.0 log₁₀) following a 60-minute exposure.