



Microbe Investigations AG

LS21-01056

Report date: April 16, 2021

Customer: U-Earth Biotech Ltd

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Microbe Investigations AG (MIS) is a spin-off company of ETH Zürich

MIS provides microbiological testing services primarily for industrial customers assessing the characteristics of developmental products. MIS also provides a depth of expertise in fundamental aspects of microbiology gained throughout many years of world-leading research. Target customers are primarily companies working with antimicrobial treatments on textiles, plastics, and coatings.

More information: www.microbe-investigations.com



Test report overview

General Info	Name	Contact	Key Account Manager
Customer	U-Earth Biotech Ltd		-
Distributor	-	-	-
Brand owner	-	-	-
Brand label	-	Application at	Client
Reason for testing	Quality validation	Application by	Not specified
Effects	-	Scale	2 - lab scale-up

Test methods carried out in this report

Effect / Property	Testing standard	Test parameter
Quantitative antibacterial test on textiles	ISO 20743:2013	Bacterium: <i>Staphylococcus aureus</i> (ATCC 6538P)
Quantitative antibacterial test on textiles	ISO 20743:2013	Bacterium: <i>Klebsiella pneumoniae</i> (ATCC 4352)

Test results: Good effect level

Test summary / comments:

- In the test ISO 20743, the "U-Mask Biolayer" sample showed good antibacterial activity against *Staphylococcus aureus* and *Klebsiella pneumoniae* after Biolayer sample underwent accelerated aging test as per EN ISO 4892-2.

Samples, finishing process and textile information

Sample	Sample description
1	U-Mask Biolayer (After Aging) 100% Polyester Spunlace material coated with Biolayer Mix*

Recipe	Sample number
Substrates	1
Polyester [%]	100
Textile information	1
Weight [g/m2]	-
Construction	VLE
Structure	OTR

Legend:

Construction process	Textile structure
VLE = Nonwoven	OTR = Other

Antibacterial Testing

Recipe	Sample number
ISO 20743: Staphylococcus aureus (ATCC 6538P)	
Control	Intial
Log cfu	3.72
Control	After 18 h
Log cfu	6.98
Sub-Samples	1-1
Log cfu Sample (staph)	4.29
Percent reduction Sample (staph) [%]	99.797
Log reduction Sample (staph)	2.70
Activity Sample (staph)	+
ISO 20743: Klebsiella pneumoniae (ATCC 4352)	
Control	Intial
Log cfu	3.72
Control	After 18 h
Log cfu	7.04
Sub-Samples	1-1
Log cfu Sample (klebs)	4.18
Percent reduction Sample (klebs) [%]	99.861
Log reduction Sample (klebs)	2.90
Activity Sample (klebs)	+