

TEST REPORT

Applicant: Curie Limited
Room C, 23/F,
Tsuen Tung Factory Building,
38-40 Chai Wan Kok Street,
Tsuen Wan,
New Territories,
Hong Kong

Report number: IRITS2020007030001

Date: 3 July 2020

Attn.: Aldrin Or

Sample Description as Declared:

No. of Sample: TWO (2) pieces of composite material for face mask in zipper bag packaging
Curie KV99
Colour: White
Date Received: 15 June 2020
Testing Period: 16 – 24 June 2020
Tests Conducted: As requested by the Applicant, with the details as follow:

Testing Summary: The sample(s) were conditioned at an acceleration temperature of 120 °C for 48 hours, followed by pre-conditioning at a minimum of 4 hour at 21 ± 5 °C and relative humidity of 65 ± 5 %. Bacterial filtration efficiency (BFE) test was then performed by spraying the samples with an aerosol of challenge bacterium *Staphylococcus aureus* in peptone water using a nebulizer. The aerosol was then drawn through the samples following by a tryptic soy agar plate under vacuum (flow rate: 100 Litres per minute). Number of *Staphylococcus aureus* colonies formed on the tryptic soy agar plate were counted after incubated at 37 ± 2 °C for 48 ± 4 hr. The BFE test procedure was modified from ASTM F2101: 2019.

For and on behalf of
Institute for Research in Innovative Technology & Sustainability
The Open University of Hong Kong



Dr. Eric Tung-po Sze

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Results:

Test Sample Number	Bacterium Colonies Formed	Bacterial Filtration Efficiency
#1	N.D. ^a	> 99 %
#2	N.D. ^a	> 99 %
Negative Control	N.D. ^a	N/A ^b

^a None Detected (N.D.) – There were no detected bacterium colony of *Staphylococcus aureus* found

^b N/A – Not Applicable

Remark: The time and temperature selected for the acceleration conditioning were based on ASTM Standard F1980-16 Appendix X1. Accelerated aging of polymers, which are equivalent to five year of room-temperature (20 °C) aging, with an aging factor $Q_{10} = 2.0$.

Sample Photos:



<End of Test Report>



香港公開大學
THE OPEN UNIVERSITY
OF HONG KONG

科技學院 *School of Science and Technology*

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Report number: IRITS2020007130001R1

Date: 23 July 2020

Attn.: Aldrin Or

Sample Description as Declared:

No. of Sample: ONE (1) piece of textile material in zipper bag packaging said to be RT-2007-T0430-DC020
Colour: White
Date Received: 21 May 2020
Testing Period: 2 – 10 July 2020
Tests Conducted: As requested by the Applicant to determine the antibacterial activity of the sample with reference to BS EN ISO 20743: 2013 Clause 8.2 Transfer method, with the following deviation:

- Shake-out the bacteria from specimens using peptone water instead of neutralizing solution.

For and on behalf of
Institute for Research in Innovative Technology & Sustainability
The Open University of Hong Kong

Dr. Eric Tung-po Sze
Director



Report number: IRITS2020007130001R1

Date: 23 July 2020

Results:

Specimen	Conditions	Number of bacteria ^a (CFU per specimen)
#1	Shake-out before incubation	0
#2	Shake-out after incubation	0

^a1 millilitre of an inoculum of *Staphylococcus aureus* with concentration of 1×10^6 CFU/ml to 3×10^6 CFU/ml was applied onto an agar plate in the transfer method, where each specimen was set on the agar surface and weigh down with a 200 g stainless-steel cylinder for $60 \text{ s} \pm 5 \text{ s}$ to transfer the microbial content. Incubation Measurement of the number of bacteria colonies was conducted in accordance with the plate count method specified in Annex C of BS EN ISO 20743:2013.

Opinion(s) and Interpretation(s): Based on the results obtained above, the specimens demonstrated effective antibacterial property to kill bacteria during transfer phase of the experiment.

Note: This Report replaces Report number IRITS2020007130001, which has been obsoleted.

<End of Test Report>