

Test Report

Company :Creative Technology Solutions Co.,Ltd.
Address: 242/7 Moo 6, Bangpreng,Bangbor,
Samutprakarn 10560 THAILAND
Tel.(66) 2706 6904-7 Fax : (66) 2706 6908
Sample Delivered by: Taned Luetrakul

Report No. 0900017366
Revision No. 2
Sample Recieved Date : Jul 3,2009
Tested Date: Jul 13,2009
Reported To: Taned Luetrakul
Page 1/1
Submission No. 090700305

<u>ID.No.</u>	<u>Sample Description</u>	<u>Test Method</u>	<u>Result</u>
001	Bino Filter Coating KAV777	Bino Filter Coating KAV777 was dipped in 5 mL $10^{0.5}$ EID ₅₀ /mL Avian Influenza virus(H5N1) suspension at 4°C for 24 hours. The suspension was inoculated to embryonated egg overnight before testing for the Avian Influenza virus(H5N1) by Real time PCR in order to test the in vitro inactivating effect of the product on Avian Influenza virus(H5N1)Compare with Bino Filter Control	Negative
002	Bino Filter Control	Bino Filter Control was dipped in 5 mL $10^{0.5}$ EID ₅₀ /mL Avian Influenza virus(H5N1) suspension at 4°C for 24 hours. The suspension was inoculated to embryonated egg overnight before testing for the Avian Influenza virus(H5N1) by Real time PCR in order to test the invitro inactivating effect of the product on Avian Influenza virus(H5N1) Avian Influenza virus(H5N1) is inactivated by Bino Filter Coating KAV777 100%	Positive

Comment : Supplement to Test Report , Report No. 0900017366 Revision No. :1

All Test method are complied with accredited ISO 9001:2008

Analyst: SUDA Hemyakul
(Suda Hemyakul)
Jul 17, 2009

Technical Manager: Sudarat Chaichomlert
(Sudarat Chaichomlert)
Jul 17, 2009

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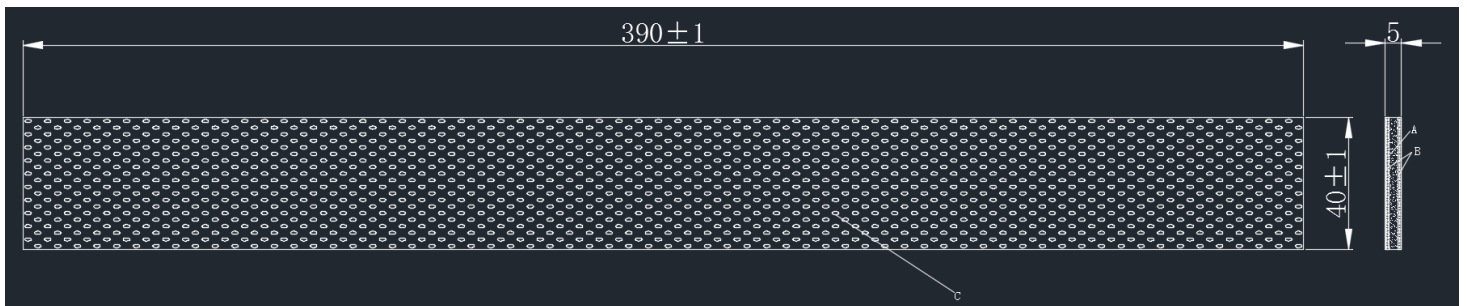
Outbound Inspection

Ultrapure Blue color PM_{2.5} Filter

Product description:

NAME: Ultrapure Blue color PM_{2.5} Filter
DIMENSIONS: 390*40*5 mm Length*Width*Thickness

Drawing Sheet:



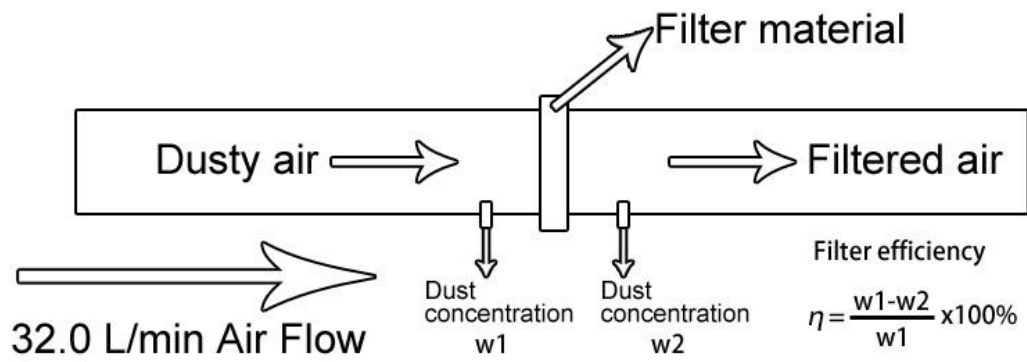
A: Static cotton

B: Glassfiber meshes

C: Spunlace cloth (Ultrapure Blue color)

Product Parameter:

Items	Parameter
Materials	Spunlace cloth(2 layers) (Ultrapure Blue color) Static cotton(1 layer) Glassfiber meshes(2 layers)
Dimensions	390*40*5 mm
Filter Efficiency	$\geq 90\%$



Test Reports

Name: Static Cotton (used in Ultrapure Blue color)

Dust source: NaCl

Dust flow: 32.0 L/min

Air resistance: 4.5 Pa

Filter efficiency table:

Number	Particle Size/ μm	Filter efficiency/%
1	0.3	94.4857
2	0.5	95.9688
3	1.0	99.4936
4	2.5	100
5	5.0	100
6	10.0	100

2018-06-08

Test Report 4055355

Date : 29-Oct-2018

Page 1 of 1

**Client : Creative Technology Solutions Co.,Ltd.
242/7 Moo 6
T.Bangpreang A.Bangbor Samutprakarn 10560 Thailand**

The following sample(s) was/were submitted and identified by client as:

Sample Name : IAQ PM2.5
 Sample Description : Filter
 Sample No. : 4191051
 Sample Condition : Sample is contained in a plastic bag.
 Qty.Submitted : 8 pcs
 Date Received : 25-Oct-2018 Date Commenced : 25-Oct-2018

Test Items	Method	Results	Units
<i>E.coli</i>	Compendium of methods for the examination of foods,5th edition,2015,chapter 9	Not detected	Per piece
<i>Staphylococcus aureus</i>	Compendium of methods for the examination of foods,5th edition,2015,chapter 39	Not detected	Per piece

**Signed for and on behalf of
SGS (Thailand) Limited**

**Jirapan Vilaipol
Microbiological Lab Manager**

***** End of Report *****

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Testing Report

Company: Creative Technology Solution Co., Ltd
Address: 242/7 Moo. 6, Bangpreng , Bangbor , Samutprakarn 10560
Test method: Microneutralization test
Test name: Effect of KAV777 coated Bino Filter on influenza A virus H1N1 2009
Reference number: VI E11/2552
Sample description: 1. Uncoated Bino Filter : KAV777 uncoated Bino Filter lot 014012C
2. Coated Bino Filter : KAV777 coated Bino Filter lot 014012K
Sample received date : December 14th, 2009.
Virus : 1 strain of Influenza A virus H1N1 2009 (Siriraj Isolate 1/2009)
Number of replicate: One time experiment
Incubation temperature: Room temperature
Incubation Ttime: 30 min, 1h, 2h and 4h
Test filter area: 4x4 cm²
Tested by Department of Microbiology, Faculty of Medicine Siriraj Hospital
Mahidol University, BKK, Thailand
Date of issue: December 28th, 2009
Total page 2

Test Report Effect of KAV777 coated Bino Filter on influenza A virus H1N1 2009

Date of Report 28th December 2009

The Test Report

1. This test report is based on and specifically for only the test samples received on December 14th, 2009.
2. This test report is not allowed to utilize as product label and for advertisement, commercial propaganda and appraisal of high-quality product etc. without permission and proof-read by laboratory authorized person.
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Method

1. The tests were performed in MDCK culture for one time experiment.
2. Sterile Bino Filter 4 cm² was inoculated with 4 ml of a influenza A virus H1N1 2009 (Siriraj Isolate 1/2009) titer (TCID₅₀/ml) of 10^{7.4}. After exposure times of 30 min, 1h, 4h and 8h, percentage of influenza A virus H1N1 2009 titer reduction compared to viral control of each exposure time was determined.

Result

Filter	Viral Titer Reduction (%) After Exposure Time			
	30 min	1h	4h	8h
KAV777 uncoated Bino Filter lot 014012C	15	39	68	79
KAV777 coated Bino Filter lot 014012K	15	39	68	100

Conclusion

The test result indicates that Bino Filter sized 4x4 cm² could act on influenza A virus H1N1 2009 more than 50% at 4h exposure. Viral titer reduction at 8 h exposure to KAV777 coated Bino Filter lot 014012K was 100 % and KAV777 uncoated Bino Filter lot 014012C was 79%.



Sontana Siritantikorn

Assoc. Prof. Dr. Sontana Siritantikorn
Virology Service Unit
Department of Microbiology
Faculty of Medicine Siriraj Hospital
Mahidol University

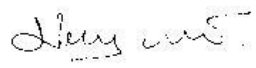
Anti-Microbial Testing Report

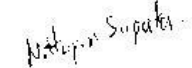
no. 5A06.0A05 195 12552

Company: Creative Technology Solution Co., Ltd.
 Address: 242/7 Moo 6, Bangprong, Bangbor, Samutprakarn 10560
 Test method: Quantitative
 Test name: AATCC 100-1999: Antibacterial Finishes on Textile Materials
 Sample description: Bino Filter
 Number of test microorganisms: 2 strains
 Test microorganisms: 1. *Klebsiella pneumoniae* ATCC 700603 Inoculum size: 3.59×10^5 CFU
 2. *Staphylococcus aureus* ATCC: 6538 Inoculum size: 3.05×10^5 CFU
 Volume of test inoculum: 1 ml
 Number of replicate: 2
 Incubation temperature: 37 °C Incubation time: 24 hrs.
 Test area: 4.0 x 4.0 cm²
 Sample cleaning: Autoclave; 121°C, 15 min.
 Result:

Please see results in the next page

Date of issue: 16/06/2009
 Reference number: TS52-10176/AM091
 Tested by: Choochart Warin
 Choochart Warin
 (Laboratory Officer)


 (Assoc.Prof. Dr. Prasert Pavasant)
 Director of NANOTEC Central Laboratory


 (Dr. Nuttapun Supaka)
 Head of Testing and Services Laboratory

Tested by National Nanotechnology Center

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Anti-Microbial Testing Report

Determination of antimicrobial activity at 24 hrs.

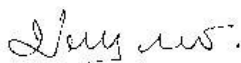
	Test microorganisms	
	<i>Klebsiella pneumoniae</i> ATCC 700603	<i>Staphylococcus aureus</i> ATCC 6538
Sample 1. Bino Filter - Control		
Number (CFU)	1.32×10^{10}	6.02×10^9
Sample 2. Bino Filter – NPX 989 + KAV 777		
Number (CFU)	7.71×10^7	4.57×10^7
% Reduction	99.42	99.24

Remark:

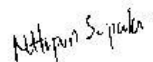
UD: Undetermined, The control specimens already have antimicrobial activity against the test microorganism. Negative value means there is no antimicrobial activities in the sample.

The obtained results indicate that tested materials possess bacteriostatic activity whereas bactericidal activity is referred as the level of antimicrobial activity that kills tested microorganism. Bactericidal activity can be defined as a bacterial burden reduction 99.9% of the microbial population*.

* P.R. Murray, K.S. Rosenthal, G.S. Kobayashi, M.A. Pfaller. Bacteriology. Medical Biomicrobiology, Forth Edition. A Harcourt Health Sciences Company. UK, 2002.



(Assoc.Prof. Dr. Prasert Pavasant)
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