

## TEST REPORT: 7191238730-CHM20-01-RC

Date: 15 JUN 2020

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Client's Ref:

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### SUBJECT

Antibacterial Activity Evaluation

### CLIENT

Magna International Pte Ltd  
10H Enterprise Road  
Singapore 629834

### SAMPLE SUBMISSION DATE/ TEST DATE

02 Jun 2020 / 04 Jun 2020

### DESCRIPTION OF SAMPLE

One sample labelled as follows was submitted.

Product: Legionella-X Viral Kleen fortified with Silver and Copper Nanoparticles, for disinfecting face shield, goggles and all types plastic shield. Sample has been diluted with 1:25 parts of tap water

### METHOD OF TEST

BS EN 1040 : 2005

"Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of basic bactericidal activity of chemical disinfectants and antiseptics – Test method and requirements (Phase 1)".

The test microorganisms used were :

*Pseudomonas aeruginosa* (ATCC 15442)  
*Staphylococcus aureus* (ATCC 6538)

Dilution tested : Neat

Contact time : 5 minutes

Neutralization method: DE Broth Neutralization

Test temperature: 20±1°C

Incubation temperature: 36±1°C



TÜV SÜD PSB

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**RESULTS**

Product : Legionella-X Viral Kleen fortified with Silver and Copper Nanoparticles, for disinfecting face shield, goggles and all types plastic shield.  
Sample has been diluted with 1:25 parts of tap water.

Validation and controls

Controls	Validation Suspension (Nv <sub>0</sub> )	30<Nv <sub>0</sub> <160 (Pass / Fail)	Experimental Condition control (A)	Neutralizer control (B)	Method Validation (C) Product Concentration: Neat	B and C ≥ 0.5 x Nv <sub>0</sub> (Pass / Fail)
<i>Pseudomonas aeruginosa</i> (ATCC 15442)	79	Pass	N.A.	75	90	Pass

Test Microorganism : *Pseudomonas aeruginosa* (ATCC 15442)

Contact Time / Concentration	Initial Count of Test Microorganism per ml of Test Mixture		Count of Surviving Test Microorganism per ml		Log Reduction	Percentage Kill of Test Microorganism
	CFU per ml	Log <sub>10</sub>	CFU per ml	Log <sub>10</sub>		
<b>5 minutes</b> Neat	23 000 000	7.36	Less than 10	Less than 1	More than 6.36	More than 99.99995

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**RESULTS** (cont'd)

Product : Legionella-X Viral Kleen fortified with Silver and Copper Nanoparticles, for disinfecting face shield, goggles and all types plastic shield.  
Sample has been diluted with 1:25 parts of tap water.

Validation and controls

Controls	Validation Suspension (N <sub>v0</sub> )	30<N <sub>v0</sub> <160 (Pass / Fail)	Experimental Condition control (A)	Neutralizer control (B)	Method Validation (C) Product Concentration: Neat	B and C ≥0.5 x N <sub>v0</sub> (Pass / Fail)
<i>Staphylococcus aureus</i> (ATCC 6538)	38	Pass	N.A.	34	38	Pass

Test Microorganism : *Staphylococcus aureus* (ATCC 6538)

Contact Time / Concentration	Initial Count of Test Microorganism per ml of Test Mixture		Count of Surviving Test Microorganism per ml		Log Reduction	Percentage Kill of Test Microorganism
	CFU per ml	Log <sub>10</sub>	CFU per ml	Log <sub>10</sub>		
<b>5 minutes</b> Neat	20 000 000	7.30	Less than 10	Less than 1	More than 6.30	More than 99.99995

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Remarks :

The product shall be deemed to have passed the test if it demonstrates a **5 Log reduction or more** (at least >99.999% kill) in viability within 5 minutes or less under the conditions defined by this test when the test organisms are *Pseudomonas aeruginosa* and *Staphylococcus aureus*.

This test method evaluates the basic bactericidal activity of chemical disinfectants with no specific application. It does not evaluate the activity of a product for an intended use. More specific test methods are used for further assessment of the efficacy of chemical disinfectants and antiseptics for a defined purpose.

The above test results relate to the sample as received.

Handwritten signature of MS CHUA XINNI in black ink.

**MS CHUA XINNI**  
HIGHER TECHNICAL EXECUTIVE

Handwritten signature of MS TI HUI EN in black ink.

**MS TI HUI EN**  
MICROBIOLOGIST  
MICROBIOLOGY  
CHEMICAL & MATERIALS



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July 2011

