

## TEST REPORT: 7191236377-CHM20-02-RC

Date: 27 APR 2020

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Client's Ref:

Email: Randy.CHIN@tuv-sud-psb.sg

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### **SUBJECT**

Antibacterial Activity Evaluation

### **CLIENT**

Klenco (Singapore) Pte. Ltd.  
18 Gul Crescent  
Singapore 629527

Attn : Mr. Timothy Seah

### **SAMPLE SUBMISSION DATE/ TEST DATE**

16 Mar 2020 / 24 Apr 2020

### **DESCRIPTION OF SAMPLE**

One sample labelled as follows was submitted.

Product : KLENCO HAND RUB 20

### **METHOD OF TEST**

Based on 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)  
*Salmonella typhimurium* (ATCC 14028)  
*Escherichia coli* (ATCC 10536)

Dilution tested : Neat

Contact time : 30 seconds and 60 seconds

Neutralization method: DE Broth Neutralization

Test temperature: 20±1°C

Incubation temperature: 36±1°C



TÜV SÜD PSB

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**RESULTS**

Product : KLENCO HAND RUB 20

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>Pseudomonas aeruginosa</i> (ATCC 15442)	48	Pass	N.A.	67	46	Pass

Test Microorganism : *Pseudomonas aeruginosa* (ATCC 15442)

Concentration/ Contact Time	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>Neat</b>						
30 seconds	17 000 000	7.23	Less than 10	Less than 1.00	More than 6.23	More than 99.99994
60 seconds	17 000 000	7.23	Less than 10	Less than 1.00	More than 6.23	More than 99.99994

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**RESULTS** (cont'd)

Product : KLENCO HAND RUB 20

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)	65	Pass	N.A.	60	53	Pass

Test Microorganism : *Staphylococcus aureus* (ATCC 6538)

Concentration/ Contact Time	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>Neat</b>						
30 seconds	22 000 000	7.34	Less than 10	Less than 1.00	More than 6.34	More than 99.99995
60 seconds	22 000 000	7.34	Less than 10	Less than 1.00	More than 6.34	More than 99.99995

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**RESULTS** (cont'd)

Product : KLENCO HAND RUB 20

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>Salmonella typhimurium</i> (ATCC 14028)	80	Pass	72	69	84	Pass

Test Microorganism : *Salmonella typhimurium* (ATCC 14028)

Concentration/ Contact Time	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>Neat</b>						
30 seconds	33 000 000	7.52	Less than 10	Less than 1.00	More than 6.52	More than 99.99997
60 seconds	33 000 000	7.52	Less than 10	Less than 1.00	More than 6.52	More than 99.99997

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**RESULTS** (cont'd)

Product : KLENCO HAND RUB 20

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>Escherichia coli</i> (ATCC 10536)	71	Pass	69	70	71	Pass

Test Microorganism : *Escherichia coli* (ATCC 10536)

Concentration/ Contact Time	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>Neat</b>						
30 seconds	30 000 000	7.48	Less than 10	Less than 1.00	More than 6.48	More than 99.99996
60 seconds	30 000 000	7.48	Less than 10	Less than 1.00	More than 6.48	More than 99.99996

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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.

A handwritten signature in black ink, appearing to be 'XINNI'.

**MS CHUA XINNI**  
HIGHER TECHNICAL EXECUTIVE

A handwritten signature in black ink, appearing to be 'RANDY CHIN'.

**MR RANDY CHIN KOK FEI**  
PRODUCT MANAGER  
MICROBIOLOGY  
CHEMICAL & MATERIALS



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July 2011

