



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

COMPANY NAME : NANOCARE SA
ADDRESS : 3 HESKETH ROAD, WESTMEAD, PINETOWN, 3610
SUBJECT : QUANTITATIVE SUSPENSION TEST FOR THE EVALUATION OF
BACTERICIDAL ACTIVITY OF CHEMICAL DISINFECTANTS AND
ANTISEPTICS USED IN FOOD, INDUSTRIAL, DOMESTIC AND
INSTITUTIONAL AREAS SANS 51276:2021 (EN1276:2019): DILUTION-
NEUTRALIZATION METHOD
MARKED : NANOCARE/NANOPURE EXP 01/05/2025
BATCH : 18901
ACTIVE INGREDIENT : 51% NaDCC, 0.016% NANOSILVER
DILUENT RECOMMENDED : POTABLE WATER
APPEARANCE : WHITE TABLETS
DILUENT USED : STANDARDIZED HARD WATER
CONCENTRATIONS TESTED : 25PPM, 250PPM, 500PPM
APPEARANCE OF DILUTIONS : COLOURLESS, HOMOGENOUS, NO PRECIPITATE OBSERVED
NEUTRALIZING AGENT : NEUTRALIZING FLUID
SOILING CONDITIONS : DIRTY CONDITIONS
STORAGE CONDITIONS : STORE IN A COOL DRY PLACE, AWAY FROM FOODSTUFFS
INSTRUCTED BY : SHAUN
LAB NO. : 949027
RECEIVED ON : 28/06/2022
DATE ANALYSED : 29/06/2022

EXPERIMENTAL CONDITIONS:

Obligatory conditions
test organisms:

Enterococcus hirae ATCC 10541

Escherichia coli ATCC 10536

Pseudomonas aeruginosa ATCC 15442

Staphylococcus aureus ATCC 6538

Test temperature:

20°C

Contact time:

5 minutes

Interfering substance:

3g/l Bovine serum albumin (Dirty conditions)

Test incubation temperature:

37°C

TECHNICAL SIGNATORY
T. Ngiba

Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Ref. No : ML-2022-06248

Issued at : Johannesburg

Date : 26/07/2022

Page : 2 of 17

PASS REQUIREMENTS:

The product shall demonstrate at least a 5 decimal log reduction when diluted with hard water/or undiluted and tested under obligatory test conditions. At least one of the test concentrations will demonstrate a log reduction of less than 5 log.

TEST VALIDITY

For each test organism:

- N is between 1.5×10^8 and 5.0×10^8 ($8.17 \leq \log N \leq 8.70$)
- N_0 is between 1.5×10^7 and 5.0×10^7 ($7.17 \leq \log N \leq 7.70$)
- N_{VO} is between 30 and 160 (3.0×10^1 and 1.6×10^2)
- A, B, C are equal to or greater than $0.5 \times N_{VO}$
- Control of weighted mean counts: quotient is not lower than 5 and not higher than 15

RESULTS:

Escherichia coli ATCC 10536

Table 1: N and N_0 values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁶	241	231	2.8x10 ⁸	8.44	2.8x10 ⁷	7.44
10 ⁻⁷	35	29				
Is Log <i>N</i> between 8.17 and 8.70: Yes						
Is Log N ₀ between 7.17 and 7.70: Yes						
Control of weighted mean counts: 7.38						

Table 2: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave Vc1&Vc2x10)	Log Na	Log Reduction (No: 7.44)
25ppm	>330	>330	>3300	>3.52	<3.92
250ppm	<14	<14	<140	<2.15	>5.29
500ppm	<14	<14	<140	<2.15	>5.29

Pseudomonas aeruginosa ATCC 15442

Table 3: N and N_0 values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁶	309	296	3.7x10 ⁸	8.57	3.7x10 ⁷	7.57
10 ⁻⁷	42	45				
Is Log Nbetween 8.17 and 8.70: Yes						
Is Log N ₀ between 7.17and 7.70: Yes						
Control of weighted mean counts: 6.95						

TECHNICAL SIGNATORY

Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Table 4: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave Vc1&Vc2x10)	Log Na	Log Reduction (No:7.57)
25ppm	>330	>330	>3300	>3.52	<4.05
250ppm	<14	<14	<140	<2.15	>5.42
500ppm	<14	<14	<140	<2.15	>5.42

Staphylococcus aureus ATCC 6538

Table 5: N and N₀ values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁶	255	264	2.6x10 ⁸	8.42	2.6x10 ⁷	7.42
10 ⁻⁷	24	29				
Is Log <i>N</i> between 8.17 and 8.70: Yes						
Is Log N ₀ between 7.17 and 7.70: Yes						
Control of weighted mean counts: 9.79						

Table 6: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave Vc1&Vc2x10)	Log Na	Log Reduction (No:7.42)
25ppm	>330	>330	>3300	>3.52	<3.90
250ppm	<14	<14	<140	<2.15	>5.27
500ppm	<14	<14	<140	<2.15	>5.27

Enterococcus hirae ATCC 10541

Table 7: N and N₀ values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁶	166	174	2.0x10 ⁸	8.30	2.0x10 ⁷	7.30
10 ⁻⁷	25	21				
Is Log <i>N</i> between 8.17 and 8.70: Yes						
Is Log N ₀ between 7.17 and 7.70: Yes						
Control of weighted mean counts: 7.39						

Table 8: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave Vc1&Vc2x10)	Log Na	Log Reduction (No:7.30)
25ppm	>330	>330	>3300	>3.52	<3.78
250ppm	<14	<14	<140	<2.15	>5.15
500ppm	<14	<14	<140	<2.15	>5.15

TECHNICAL SIGNATORY

Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

VALIDATIONS AND CONTROLS

Table 9: *Enterococcus hirae* ATCC 10541

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	85	88	Vc1	81	80	Vc1	74	75.5	Vc1	66	70
Vc2	91		Vc2	79		Vc2	77		Vc2	74	
0.5x88=44											
Is the Nvo value between 30-160: YES											
Is the Experimental Condition $A \geq 0.5 \times \text{Nvo}$ value: YES											
Is the Neutralizer Condition $B \geq 0.5 \times \text{Nvo}$ value: YES											
Is the Method Validation $C \geq 0.5 \times \text{Nvo}$ value: YES											

Table 10: *Escherichia coli* ATCC 10536

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	104	108	Vc1	92	95	Vc1	94	100	Vc1	88	84
Vc2	112		Vc2	98		Vc2	106		Vc2	80	
0.5x108=54											
Is the Nvo value between 30-160: YES											
Is the Experimental Condition A≥0.5xNvo value: YES											
Is the Neutralizer Condition B≥0.5xNvo value: YES											
Is the Method Validation C≥0.5xNvo value: YES											

Table 11: *Pseudomonas aeruginosa* ATCC 15442

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	96	99	Vc1	80	84	Vc1	84	90	Vc1	69	71
Vc2	102		Vc2	88		Vc2	96		Vc2	73	
0.5x99=49.5											
Is the Nvo value between 30-160: YES											
Is the Experimental Condition A≥0.5xNvo value: YES											
Is the Neutralizer Condition B≥0.5xNvo value: YES											
Is the Method Validation C≥0.5xNvo value: YES											

TECHNICAL SIGNATORY

 Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Table 12: *Staphylococcus aureus* ATCC 6538

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	112	109	Vc1	98	96	Vc1	99	101	Vc1	64	66.5
Vc2	106		Vc2	94		Vc2	103		Vc2	69	
0.5x109=54.5											
Is the Nvo value between 30- 160: YES											
Is the Experimental Condition $A \geq 0.5 \times \text{Nvo}$ value: YES											
Is the Neutralizer Condition $B \geq 0.5 \times \text{Nvo}$ value: YES											
Is the Method Validation $C \geq 0.5 \times \text{Nvo}$ value: YES											

Conclusion

- The product tested at a dilution of **250ppm complied** with the criteria indicated under the "Pass Requirements" of SANS 51276:2021 (EN 1276:2019) standard (obligatory dirty conditions) which requires at least a 99.999% kill (5 log reduction).
- The mean reduction of six replicates with the limiting test organism *Staphylococcus aureus* was 3.1×10^5 . *Pseudomonas aeruginosa*, *Enterococcus hirae* and *Escherichia coli* were tested once and showed a 5 log reduction or more at a lower concentration than *Staphylococcus aureus*.

TECHNICAL SIGNATORY

 Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

COMPANY NAME : NANOCARE SA
ADDRESS : 3 HESKETH ROAD, WESTMEAD, PINETOWN, 3610
SUBJECT : QUANTITATIVE SUSPENSION TEST FOR THE EVALUATION OF
FUNGICIDAL ACTIVITY OF CHEMICAL DISINFECTANTS
AND ANTISEPTICS USED IN FOOD, INDUSTRIAL, DOMESTIC AND
INSTITUTIONAL AREAS SANS 51650:2011 (EN1650:2008): DILUTION-
NEUTRALIZATION METHOD
MARKED : NANOCARE/NANOPURE EXP 01/05/2025
BATCH : 18901
ACTIVE INGREDIENT : 51% NaDCC, 0.016% NANOSILVER
DILUENT USED : STANDARDIZED HARD WATER
APPEARANCE : WHITE TABLETS
DILUENT RECOMMENDED : POTABLE WATER
CONCENTRATIONS TESTED : 25PPM, 250PPM & 500PPM
STORAGE CONDITIONS : KEEP IN A DRY PLACE AWAY FROM FOODSTUFFS
APPEARANCE OF MIXTURE : COLOURLESS, HOMOGENOUS, NO PRECIPITATE OBSERVED
SOILING CONDITIONS : PRODUCT NOT TESTED ON SOILED CONDITIONS
NEUTRALIZING AGENT : NEUTRALIZING FLUID
INSTRUCTED BY : SHAUN
LAB NO. : 949027
RECEIVED ON : 28/06/2022
DATE ANALYSED : 29/06/2022

EXPERIMENTAL CONDITIONS:

Obligatory conditions
test organisms: *Candida albicans* ATCC 10231
Aspergillus brasiliensis ATCC 16404
Test temperature: 20°C
Contact time: 15 minutes
Interfering substance: 0.3g/l Bovine serum albumin (Clean conditions)
Test incubation temperature: 30°C

PASS REQUIREMENTS:

The product shall demonstrate at least a 4 decimal log reduction when diluted with hard water/or undiluted and tested under obligatory test conditions. At least one of the test concentrations will demonstrate a log reduction of less than 4 log.

TECHNICAL SIGNATORY
T. Nyabera

AA

Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Ref. No : ML-2022-06248
 Issued at : Johannesburg
 Date : 26/07/2022
 Page : 7 of 17

TEST VALIDITY

For each test organism:

- N is between 1.5×10^7 and 5.0×10^7 ($7.17 \leq \log N \leq 7.70$)
- N_0 is between 1.5×10^6 and 5.0×10^6 ($6.17 \leq \log N_0 \leq 6.70$)
- N_{10} is between 30 and 160 (3.0×10^1 and 1.6×10^2)
- A, B, C are equal to or greater than $0.5 \times N_{10}$
- Control of weighted mean counts: quotient is not lower than 5 and not higher than 15

RESULTS:

Candida albicans ATCC 10231

Table 13: N and N_0 values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁵	226	232	2.4x10 ⁷	7.38	2.4x10 ⁶	6.38
10 ⁻⁶	24	26				
Is Log <i>N</i> between 7.17 and 7.70: Yes						
Is Log N ₀ between 6.17and 6.70: Yes						
Control of weighted mean counts: 9.16						

Table 14: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave $Vc1 \& Vc2 \times 10$)	Log Na	Log Reduction (No: 6.38)
25ppm	>330	>330	>3300	>3.52	<2.86
250ppm	<14	<14	<140	<2.15	>4.23
500ppm	<14	<14	<140	<2.15	>4.23

Aspergillus brasiliensis ATCC 16404

Table 15: N and N_0 values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁵	144	139	2.0x10 ⁷	7.30	2.0x10 ⁶	6.30
10 ⁻⁶	24	29				
Is Log Nbetween 7.17 and 7.70: Yes						
Is Log N ₀ between 6.17and 6.70: Yes						
Control of weighted mean counts: 5.34						

TECHNICAL SIGNATORY

 Authorised Signature (original blue ink)



Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Table 16: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave Vc1&Vc2x10)	Log Na	Log Reduction (No: 6.30)
25ppm	>165	>165	>1650	>3.22	<3.08
250ppm	19	16	175	2.24	4.06
500ppm	<14	<14	<140	<2.15	>4.15

VALIDATIONS AND CONTROLS

Table 17: *Candida albicans* ATCC 10231

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	78	82	Vc1	70	68.5	Vc1	64	66.5	Vc1	64	62.5
Vc2	86		Vc2	67		Vc2	69		Vc2	61	
0.5x82=41											
Is the Nvo value between 30-160: YES											
Is the Experimental Condition $A \geq 0.5 \times Nvo$ value: YES											
Is the Neutralizer Condition $B \geq 0.5 \times Nvo$ value: YES											
Is the Method Validation $C \geq 0.5 \times Nvo$ value: YES											

Table 18: *Aspergillus brasiliensis* ATCC 16404

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	69	66	Vc1	55	56	Vc1	61	63	Vc1	54	56.5
Vc2	63		Vc2	57		Vc2	65		Vc2	59	
0.5x66=33											
Is the Nvo value between 30-160: YES											
Is the Experimental Condition A≥0.5xNvo value: YES											
Is the Neutralizer Condition B≥0.5xNvo value: YES											
Is the Method Validation C≥0.5xNvo value: YES											

Conclusion

- The product tested at a dilution of **250ppm** complied with the criteria indicated under the "Pass Requirements" of SANS 51650:2011 (EN1650:2008) standard (obligatory conditions) which requires at least a 99.99% kill (4 log reduction).
- The mean reduction of six replicates with the limiting test organism *Aspergillus brasiliensis* was 1.2×10^4 . *Candida albicans* was tested once and showed a 4 log reduction at a lower concentration than *Aspergillus brasiliensis*.

TECHNICAL SIGNATORY
T. Ngwenya

Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

COMPANY NAME : NANOCARE SA
ADDRESS : 3 HESKETH ROAD, WESTMEAD, PINETOWN, 3610
SUBJECT : QUANTITATIVE SUSPENSION TEST FOR THE EVALUATION OF
SPORICIDAL ACTIVITY OF CHEMICAL DISINFECTANTS USED IN
FOOD, INDUSTRIAL, DOMESTIC AND INSTITUTIONAL AREAS SANS
53704:2006 (EN13704:2002): DILUTION- NEUTRALIZATION METHOD
MARKED : NANOCARE/NANOPURE EXP 01/05/2025
BATCH : 18901
ACTIVE INGREDIENT : 51% NaDCC, 0.016% NANOSILVER
DILUENT RECOMMENDED : POTABLE WATER
CONCENTRATIONS TESTED : 25PPM, 250PPM & 500PPM
APPEARANCE : WHITE TABLETS
DILUENT USED : STANDARDIZED HARD WATER
APPEARANCE OF MIXTURE : COLOURLESS, HOMOGENOUS, NO PRECIPITATE OBSERVED
STORAGE CONDITIONS : STORE IN A COOL DRY PLACE, AWAY FROM FOODSTUFFS
SOILING CONDITIONS : PRODUCT NOT TESTED ON SOILED CONDITIONS
SPORE ORIGIN : MICROBIOLOGICS
NEUTRALIZING AGENT : NEUTRALIZING FLUID
INSTRUCTED BY : SHAUN
LAB NO. : 949027
RECEIVED ON : 28/06/2022
DATE ANALYSED : 29/06/2022

EXPERIMENTAL CONDITIONS:

Obligatory conditions
test organisms: *Bacillus subtilis* ATCC 6633
Test temperature: 20°C
Contact time: 60 minutes
Interfering substance: 0.3g/l Bovine serum albumin (Clean conditions)
Test incubation temperature: 30°C

PASS REQUIREMENTS:

The product shall demonstrate at least a 3 decimal log reduction when diluted with hard water/or undiluted and tested under obligatory test conditions. At least one of the test concentrations will demonstrate a log reduction of less than 3 log.

TECHNICAL SIGNATORY
T. Gordon

At

Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Bacillus subtilis ATCC 6633

Table 19: N and N_0 values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁴	210	201	2.7 x10 ⁶	6.43	2.7 x10 ⁵	5.43
10 ⁻⁵	35	30				
Is Log Nbetween 6.17 and 6.70: Yes						
Is Log N ₀ between 5.17and 5.70: Yes						
Control of weighted mean counts: 6.32						

Table 20: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave $Vc1 \& Vc2 \times 10$)	Log Na	Log Reduction (No: 5.43)
25ppm	>300	>300	>3000	>3.48	<1.95
250ppm	<15	<15	<150	<2.18	>3.25
500ppm	<15	<15	<150	<2.18	>3.25

VALIDATIONS AND CONTROLS

Table 21: *Bacillus subtilis* ATCC 6633

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	91	94	Vc1	78	81.5	Vc1	73	70.5	Vc1	66	68.5
Vc2	97		Vc2	85		Vc2	68		Vc2	71	
0.5x94=47											
Is the N value between 1.5x10 ⁶ cfu/ml-5.0 x10 ⁶ cfu/ml: YES											
Is the Experimental Condition A≥0.05xNv value: YES											
Is the Neutralizer Condition B≥0.05xNv value: YES											
Is the Method Validation C≥0.5xB value: YES											

Conclusion

The product tested at a dilution of **250ppm** complied with the criteria indicated under the "Pass Requirements" of SANS 53704:2006 (EN 13704:2002) standard (obligatory conditions) which requires at least a 99.9% kill (3 log reduction).

TECHNICAL SIGNATORY

 Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

COMPANY NAME : NANOCARE SA
ADDRESS : 3 HESKETH ROAD, WESTMEAD, PINETOWN, 3610
SUBJECT : QUANTITATIVE SUSPENSION TEST FOR THE EVALUATION OF
BACTERICIDAL ACTIVITY OF CHEMICAL DISINFECTANTS
FOR INSTRUMENTS USED IN THE MEDICAL AREA SANS
53727:2011 (EN13727:2003): DILUTION- NEUTRALIZATION
MARKED : NANOCARE/NANOPURE EXP 01/05/2025
ACTIVE INGREDIENT : 51% NaDCC, 0.016% NANOSILVER
BATCH : 18901
DILUENT RECOMMENDED : POTABLE WATER
APPEARANCE : WHITE TABLETS
DILUENT USED : STANDARDIZED HARD WATER
CONCENTRATIONS TESTED : 25PPM, 250PPM, 500PPM
APPEARANCE OF DILUTIONS : COLOURLESS, HOMOGENOUS, NO PRECIPITATE OBSERVED
NEUTRALIZING AGENT : NEUTRALIZING FLUID
SOILING CONDITIONS : PRODUCT NOT TESTED ON SOILED CONDITIONS
STORAGE CONDITIONS : STORE IN A COOL DRY PLACE, AWAY FROM FOODSTUFFS
INSTRUCTED BY : SHAUN
LAB NO. : 949027
RECEIVED ON : 28/06/2022
DATE ANALYSED : 29/06/2022

EXPERIMENTAL CONDITIONS:

Obligatory conditions
test organisms:

Enterococcus hirae ATCC 10541

Pseudomonas aeruginosa ATCC 15442

Staphylococcus aureus ATCC 6538

Test temperature:

20°C

Contact time:

60 minutes

Interfering substance:

0.3g/l Bovine serum albumin (Clean conditions)

Test incubation temperature:

37°C

PASS REQUIREMENTS:

The product shall demonstrate at least a 5 decimal log reduction when diluted with hard water/or undiluted and tested under obligatory test conditions. At least one of the test concentrations will demonstrate a log reduction of less than 5 log.

TECHNICAL SIGNATORY
T. Ngobiza

AA

Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Ref. No : ML-2022-06248

Issued at : Johannesburg

Date : 26/07/2022

Page : 12 of 17

TEST VALIDITY

For each test organism:

- N is between 1.5×10^8 and 5.0×10^8 ($8.17 \leq \log N \leq 8.70$)
- N_0 is between 1.5×10^7 and 5.0×10^7 ($7.17 \leq \log N \leq 7.70$)
- N_{10} is between 30 and 160 (3.0×10^1 and 1.6×10^2)
- A, B, C are equal to or greater than $0.5 \times N_{10}$
- Control of weighted mean counts: quotient is not lower than 5 and not higher than 15

RESULTS:

Enterococcus hirae ATCC 10541

Table 22: N and N_0 values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁶	166	174	2.0x10 ⁸	8.30	2.0x10 ⁷	7.30
10 ⁻⁷	25	21				
Is Log Nbetween 8.17 and 8.70: Yes						
Is Log N ₀ between 7.17and 7.70: Yes						
Control of weighted mean counts: 7.39						

Table 23: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave $Vc1 \& Vc2 \times 10$)	Log Na	Log Reduction (No: 7.30)
25ppm	>330	>330	>3300	>3.52	<3.78
250ppm	<14	<14	<140	<2.15	>5.15
500ppm	<14	<14	<140	<2.15	>5.15

Pseudomonas aeruginosa ATCC 15442

Table 24: N and N_0 values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁶	309	296	3.7x10 ⁸	8.57	3.7x10 ⁷	7.57
10 ⁻⁷	42	45				
Is Log Nbetween 8.17 and 8.70: Yes						
Is Log N ₀ between 7.17and 7.70: Yes						
Control of weighted mean counts: 6.95						

TECHNICAL SIGNATORY

 Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Ref. No : ML-2022-06248

Issued at : Johannesburg

Date : 26/07/2022

Page : 13 of 17

Table 25: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave Vc1&Vc2x10)	Log Na	Log Reduction (No:7.57)
25ppm	>330	>330	>3300	>3.52	<4.05
250ppm	<14	<14	<140	<2.15	>5.42
500ppm	<14	<14	<140	<2.15	>5.42

Staphylococcus aureus ATCC 6538

Table 26: N and N₀ values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁶	255	264	2.6x10 ⁸	8.42	2.6x10 ⁷	7.42
10 ⁻⁷	24	29				
Is Log Nbetween 8.17 and 8.70: Yes						
Is Log N ₀ between 7.17and 7.70: Yes						
Control of weighted mean counts: 9.79						

Table 27: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave Vc1&Vc2x10)	Log Na	Log Reduction (No:7.42)
25ppm	>330	>330	>3300	>3.52	<3.90
250ppm	<14	<14	<140	<2.15	>5.27
500ppm	<14	<14	<140	<2.15	>5.27

VALIDATIONS AND CONTROLS

Table 28: Enterococcus hirae ATCC 10541

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	85	88	Vc1	82	80	Vc1	74	75.5	Vc1	65	69
Vc2	91		Vc2	78		Vc2	77		Vc2	73	
0.5x88=44											
Is the Nvo value between 30-160: YES											
Is the Experimental Condition $A \geq 0.5 \times N_{vo}$ value: YES											
Is the Neutralizer Condition $B \geq 0.5 \times N_{vo}$ value: YES											
Is the Method Validation $C \geq 0.5 \times N_{vo}$ value: YES											

TECHNICAL SIGNATORY

 Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Ref. No : ML-2022-06248

Issued at : Johannesburg

Date : 26/07/2022

Page : 14 of 17

Table 29: *Staphylococcus aureus* ATCC 6538

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	112	109	Vc1	101	99	Vc1	99	101	Vc1	92	88.5
Vc2	106		Vc2	97		Vc2	103		Vc2	85	
0.5x109=54.5											
Is the Nvo value between 30-160: YES											
Is the Experimental Condition A≥0.5xNvo value: YES											
Is the Neutralizer Condition B≥0.5xNvo value: YES											
Is the Method Validation C≥0.5xNvo value: YES											

Table 30: *Pseudomonas aeruginosa* ATCC 15442

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	96	99	Vc1	85	89.5	Vc1	84	90	Vc1	61	63
Vc2	102		Vc2	94		Vc2	96		Vc2	65	
0.5x99=49.5											
Is the Nvo value between 30-160: YES											
Is the Experimental Condition A≥0.5xNvo value: YES											
Is the Neutralizer Condition B≥0.5xNvo value: YES											
Is the Method Validation C≥0.5xNvo value: YES											

Conclusion

- The product tested at a dilution of **250ppm complied** with the criteria indicated under the "Pass Requirements" of SANS 53727:2011 (EN 13727:2003) standard (obligatory conditions) which requires at least a 99.999% kill (5 log reduction).
- The mean reduction of six replicates with the limiting test organism *Staphylococcus aureus* was 1.8×10^5 . *Pseudomonas aeruginosa* and *Enterococcus hirae* were tested once and showed a 5 log reduction or more at a lower concentration than *Staphylococcus aureus*.

TECHNICAL SIGNATORY

 Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

COMPANY NAME : NANOCARE SA
ADDRESS : 3 HESKETH ROAD, WESTMEAD, PINETOWN, 3610
SUBJECT : QUANTITATIVE SUSPENSION TEST FOR THE EVALUATION OF
FUNGICIDAL ACTIVITY OF CHEMICAL DISINFECTANTS FOR
INSTRUMENTS USED IN THE MEDICAL AREA SANS 53624:2011
(EN13624:2003): DILUTION-NEUTRALIZATION METHOD
MARKED : NANOCARE/NANOPURE EXP 01/05/2025
BATCH : 18901
ACTIVE INGREDIENT : 51% NaDCC, 0.016% NANOSILVER
DILUENT RECOMMENDED : POTABLE WATER
APPEARANCE : WHITE TABLETS
DILUENT USED : STANDARDIZED HARD WATER
CONCENTRATIONS TESTED : 25PPM, 250PPM & 500PPM
APPEARANCE OF DILUTIONS : COLOURLESS, HOMOGENOUS, NO PRECIPITATE OBSERVED
NEUTRALIZING AGENT : NEUTRALIZING FLUID
SOILING CONDITIONS : PRODUCT NOT TESTED ON SOILED CONDITIONS
STORAGE CONDITIONS : STORE IN A COOL DRY PLACE, AWAY FROM FOODSTUFFS
INSTRUCTED BY : SHAUN
LAB NO. : 949027
RECEIVED ON : 28/06/2022
DATE ANALYSED : 29/06/2022

EXPERIMENTAL CONDITIONS:

Obligatory conditions
test organisms: *Candida albicans* ATCC 10231
Aspergillus brasiliensis ATCC 16404
Test temperature: 20°C
Contact time: 60 minutes
Interfering substance: 0.3g/l Bovine serum albumin (Clean conditions)
Test incubation temperature: 30°C

PASS REQUIREMENTS:

The product shall demonstrate at least a 4 decimal log reduction when diluted with hard water/or undiluted and tested under obligatory test conditions. At least one of the test concentrations will demonstrate a log reduction of less than 4 log.

TECHNICAL SIGNATORY
T. N. N. N.

AT

Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Ref. No : ML-2022-06248

Issued at : Johannesburg

Date : 26/07/2022

Page : 16 of 17

TEST VALIDITY

For each test organism:

- N is between 1.5×10^7 and 5.0×10^7 ($7.17 \leq \log N \leq 7.70$)
- N_0 is between 1.5×10^6 and 5.0×10^6 ($6.17 \leq \log N \leq 6.70$)
- N_{V0} is between 30 and 160 (3.0×10^1 and 1.6×10^2)
- A, B, C are equal to or greater than $0.5 \times N_{V0}$
- Control of weighted mean counts: quotient is not lower than 5 and not higher than 15

RESULTS:

Candida albicans ATCC 10231

Table 31: N and N_0 values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁵	226	232	2.4x10 ⁷	7.38	2.4x10 ⁶	6.38
10 ⁻⁶	24	26				
Is Log <i>N</i> between 7.17 and 7.70: Yes						
Is Log N ₀ between 6.17and 6.70: Yes						
Control of weighted mean counts: 9.16						

Table 32: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave Vc1&Vc2x10)	Log Na	Log Reduction (No: 6.38)
25ppm	>330	>330	>3300	>3.52	<2.86
250ppm	<14	<14	<140	<2.15	>4.23
500ppm	<14	<14	<140	<2.15	>4.23

Aspergillus brasiliensis ATCC 16404

Table 33: N and N_0 values

Dilution	Vc1	Vc2	Average N(wm)	Log N	N ₀ (N/10)	Log N ₀
10 ⁻⁵	144	139	2.0x10 ⁷	7.30	2.0x10 ⁶	6.30
10 ⁻⁶	24	29				
Is Log Nbetween 7.17 and 7.70: Yes						
Is Log N ₀ between 6.17and 6.70: Yes						
Control of weighted mean counts: 5.34						

TECHNICAL SIGNATORY
 T. Ngobaza

 Authorised Signature (original blue ink)



M & L LABS

Certificate/Report

RESULTS REPORTED RELATED ONLY TO ITEMS TESTED

Table 34: Test Log Reduction Values

Product Concentration	Vc1	Vc2	Na (Ave Vc1&Vc2x10)	Log Na	Log Reduction (No: 6.30)
25ppm	>165	>165	>1650	>3.22	<3.08
250ppm	<14	<14	<140	<2.15	>4.15
500ppm	<14	<14	<140	<2.15	>4.15

VALIDATIONS AND CONTROLS

Table 35: *Candida albicans* ATCC 10231

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	78	82	Vc1	76	72.5	Vc1	64	66.5	Vc1	62	64
Vc2	86		Vc2	69		Vc2	69		Vc2	66	
0.5x82=41											
Is the Nvo value between 30-160: YES											
Is the Experimental Condition $A \geq 0.5 \times \text{Nvo}$ value: YES											
Is the Neutralizer Condition $B \geq 0.5 \times \text{Nvo}$ value: YES											
Is the Method Validation $C \geq 0.5 \times \text{Nvo}$ value: YES											

Table 36: *Aspergillus brasiliensis* ATCC 16404

Validation suspension			Experimental Conditions Control A			Neutralizer Control B			Method Validation C		
		Ave			Ave			Ave			Ave
Vc1	69	66	Vc1	62	60.5	Vc1	61	63	Vc1	50	53
Vc2	63		Vc2	59		Vc2	65		Vc2	56	
0.5x66=33											
Is the Nvo value between 30-160: YES											
Is the Experimental Condition $A \geq 0.5 \times \text{Nvo}$ value: YES											
Is the Neutralizer Condition $B \geq 0.5 \times \text{Nvo}$ value: YES											
Is the Method Validation $C \geq 0.5 \times \text{Nvo}$ value: YES											

Conclusion

- The product tested at a dilution of **250ppm** complied with the criteria indicated under the "Pass Requirements" of SANS 53624:2011 (EN13624:2003) standard (obligatory conditions) which requires at least a 99.99% kill (4 log reduction).
- The mean reduction of six replicates with the limiting test organism *Aspergillus brasiliensis* was 1.9×10^4 . *Candida albicans* was tested once and showed a 4 log reduction at a lower concentration than *Aspergillus brasiliensis*.

TECHNICAL SIGNATORY

 Authorised Signature (original blue ink)