

-----**STUDY REPORT**-----

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DISCLAIMER:

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The results reported relate only to the samples tested and is expressed on an 'as received' basis unless specified otherwise. The test report shall not be reproduced except in full, without written approval of the Laboratory.

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STUDY NAME: Efficacy of **18PPM Liquid against *Listeria monocytogenes*** .

**TEST OUTLINE:**

18ppm Liquid was submitted on 30/06/2023 (Batch number SL2707)

The aim of the study was to determine the minimum contact time required to produce at least a 5 log reduction in viable *Listeria monocytogenes*.

The test was conducted in a suspension test loosely based on the method used for determination of bactericidal efficacy of chemical disinfectants EN1276. Certain deviations from the standard method had to be made to eliminate the presence of any traces of Salt (NaCl) which binds and inactivates the silver ions in the suspension.

Bacterial suspensions were prepared from overnight cultures on nutrient agar and standardised to 10<sup>8</sup>cfu/ml in sterile distilled water. Suspensions were standardised by adjusting the optical density to between 0.08 and 0.1 at 625nm using a spectrophotometer.

The test suspension was prepared with a volume of 8ml of the Ionic silver product, 1ml 3g/L bovine serum albumin to give a concentration of 0.3g/L in the final test mixture, and 1 ml of the bacterial suspension.

The aim was to determine the minimum contact time to eliminate >5log of viable bacterial cells in the test suspension.

A 1ml portion of the test mixture was removed at time intervals of 30 Seconds, 60 seconds, 3 minutes, 5 minutes, 10 minutes and 30 minutes. The test portion was placed in a petri dish and immediately overlaid with Plate count agar containing 5g/L NaCl to bind and neutralise the Ionic Silver.

A control sample containing only distilled water instead of the Ionic silver was included as a negative control sample.

Plates were incubated at 37°C for 48 hours before interpretation.

**RESULTS:**

Table 1: Results. (\*ND = Not Detected)

Sample	Growth recovered at each Time Interval (Cfu/ml) ( <i>Listeria monocytogenes</i> )					
	30s	60s	3m	5m	10m	30m
200ml Liquid SL2707	0	0	0	0	0	0
control	>3X10 <sup>5</sup>	>3X10 <sup>5</sup>	>3X10 <sup>5</sup>	>3X10 <sup>5</sup>	>3X10 <sup>5</sup>	>3X10 <sup>5</sup>

**Conclusion:**

The control sample consistently yielded >300cfu on a 10<sup>-3</sup> dilution from the sample, indicating a good survival rate in the control sample.

The test sample (200ml Liquid – expected 18ppm Batch no: SL2707 Exp: 06/2025) eliminated all viable cells after a minimum contact time in 30 seconds.

The test sample was successful in producing a >5Log reduction in viable *Listeria monocytogenes* within 30 Seconds.



Johan Jacobs

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