

# Analysis Report



**Twin Arbor Analytical**

3990 Ruth Way Suite D

Paso Robles, CA 93446

Applicant: Kapsule UV-C Sanitizer

Laboratory ID: 200626-127-1

Sample Description:

Item Name: UV-C Sanitizing Smartphone Case



Tests Conducted:

**Tested Sample:** Tested systems reported efficacy claim

**Standard:** ASTM E3135-18 Standard Practice for Determining Antimicrobial Efficacy of Ultraviolet Germicidal Irradiation Against Microorganisms on Carriers Using a Time-Kill Procedure

Results:

Assessment efficacy criteria was met. See attached page(s) for test result assessment values

Prepared and Checked By:

Twin Arbor Analytical

A handwritten signature in black ink that reads "Shawn Richmond".

Shawn Richmond

Microbial Laboratory Director

Authorized By:

Twin Arbor Analytical

A handwritten signature in black ink that reads "Savannah".

Savannah Perez

Quality Control Manager

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**Test Conditions**

Exposure time points: 1min ± 5s  
 3min ± 5s  
 5min ± 5s

Test temperature: (20 ± 2) °C

Incubation: (32.5 ± 2) °C, 24-48 hours

Agar medium: Brain Heart Infusion Agar, pH 7.4 ± 0.2

Diluent: Buffered Peptone Water, pH 7.2 ± 0.2

Test culture: *Escherichia coli* (ATCC 8739)  
*Salmonella typhimurium* (ATCC 13311)  
*Listeria monocytogenes* (ATCC 19111)

Culture suspension: 10uL of initial culture suspension was added to a glass carrier and dried for 10-15min prior to exposure time points. Cells were recovered by vortexing the glass carriers in the diluent for 20 minutes and then immediately plated for colony counts.

Log<sub>10</sub> reduction criteria: R ≥ 3.0

% reduction criteria: ≥ 99.9

**Results**

Test microorganisms	Initial culture suspension count (cfu/ml)	Positive control recovered count** (cfu/ml)	1 min exposure average recovered count (cfu/ml)	3 min exposure average recovered count (cfu/ml)	5 min exposure average recovered count (cfu/ml)	Log <sub>10</sub> Reduction*	% Reduction*
<i>Escherichia coli</i> (ATCC 8739)	1.2 X 10 <sup>8</sup>	4.6 X 10 <sup>4</sup>	15	<10	<10	>3.0	>99.9%
<i>Salmonella typhimurium</i> (ATCC 13311)	5.3 X 10 <sup>8</sup>	1.7 X 10 <sup>6</sup>	685	<10	<10	>4.0	>99.99%
<i>Listeria monocytogenes</i> (ATCC 19111)	4.3 X 10 <sup>8</sup>	9.9 X 10 <sup>5</sup>	2780	145	<10	>5.0	>99.999%

\*reported values are for the longest exposure time point

\*\*the positive control was subjected to the same drying time and vortexing, but did not receive any UV-C exposure.

**End of Report**