

## Antimicrobial Susceptibility Test - Zone of Inhibition Final Report

Test Article: d **Competitor A**  
Y **Competitor B**  
Ice E Oil Protect-Blend

Purchase Order: Ice E Oils

Study Number: 963367-S01

Study Received Date: 08 May 2018

Testing Facility: Nelson Laboratories, LLC, a Business Unit of Sterigenics International  
6280 S. Redwood Rd.  
Salt Lake City, UT 84123 U.S.A.

Test Procedure(s): Standard Test Protocol (STP) Number: 801-STP0124 Rev 02  
Customer Specification Sheet (CSS) Number: 201702859 Rev 01

**Summary:** This report details the procedures used for screening products for antimicrobial activity. The challenge organisms for this study were *Staphylococcus aureus*, ATCC #6538, *Escherichia coli*, ATCC #8739, and *Salmonella enterica*, ATCC #13076. The test procedure was an adaptation of the disk diffusion (Kirby-Bauer) method for antibiotic susceptibility testing. Testing was performed in compliance with US FDA good manufacturing practice (GMP) regulations 21 CFR Parts 210, 211 and 820.

**Results:**

Zone of Inhibition Measurement:

*S. aureus:*

Test Article	Diameter of the Zone Including Test Article (mm)		
	Replicate 1	Replicate 2	Replicate 3
d <b>Competitor A</b>	37.94	38.43	43.43
Y <b>Competitor B</b>	38.64	41.59	39.76
Ice E Oil Protect-Blend	37.77	38.43	35.82
Control	No Zone	No Zone	No Zone

*E. coli:*

Test Article	Diameter of the Zone Including Test Article (mm)		
	Replicate 1	Replicate 2	Replicate 3
d <b>Competitor A</b>	35.11	30.11	27.61
Y <b>Competitor B</b>	26.95	34.08	33.03
Ice E Oil Protect-Blend	28.07	29.43	22.19
Control	No Zone	No Zone	No Zone

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*S. enterica*:

Test Article	Diameter of the Zone Including Test Article (mm)		
	Replicate 1	Replicate 2	Replicate 3
d <b>Competitor A</b>	40.80	31.89	40.28
Y <b>Competitor B</b> s	30.23	30.37	31.53
Ice E Oil Protect-Blend	34.22	31.08	31.94
Control	No Zone	No Zone	No Zone