

Odor Test Results

STUDY RUN BY: MICROBIOTEST, INC.

STUDY TITLE: Fabric Surface Sanitizer Method, *Proteus mirabilis*

STUDY SPONSOR: Tersano (International) SRL

TEST AGENT NAME: lotus Sanitizing System

ACTIVE INGREDIENT: Ozone

CHALLENGE BACTERIA: *Proteus mirabilis*, ATCC 7002

EXPOSURE TIME: 30 seconds and 10 minutes (For each carrier type per exposure time) ten inoculated, dried carriers were treated using the spray adapter containing 500 ml of sterile tap water. The system was activated and ozone was generated. The average generation time for each batch of test material was 4 minutes and 8 seconds. The automated system prompted the user when ozone generation was complete.

RESULTS: The challenge microorganism was confirmed by Gram stain to be consistent with *P. mirabilis*. The sterility controls exhibited no growth. The viability and neutralizer effectiveness controls exhibited growth. An average of 90 colony-forming units (CFU)/tube of *P. mirabilis* was added to the neutralizer effectiveness controls.

Percent reduction was calculated using the following equation:

$$\frac{\text{Initial count (CFU/Carrier)} - \text{Test result (CFU/Carrier)}}{\text{Initial count (CFU/Carrier)}} \times 100 = \text{Percent Reduction}$$

Results presented for Cotton with contact time
of 30 seconds and 10 minutes

Proteus mirabilis

Water Control	Cotton Fabric			
	Contact Time	Replicate	Result	Percent Reduction
2.50E+05	30 seconds	1	8.50E+03	96.600
		2	6.80E+03	97.280
		3	7.10E+03	97.160
		4	3.30E+03	98.680
		5	1.00E+04	96.000
		6	2.60E+03	98.960
		7	6.20E+03	97.520
		8	7.60E+03	96.960
		9	3.00E+03	98.800
		10	2.50E+03	99.000
2.50E+05	10 minutes	1	2.70E+03	98.920
		2	1.60E+03	99.360
		3	1.20E+03	99.520
		4	2.70E+03	98.920
		5	7.80E+03	96.880
		6	2.10E+03	99.160
		7	7.40E+03	97.040
		8	6.80E+03	97.280
		9	3.40E+03	98.640
		10	1.90E+03	99.240

Results presented for Polyester with contact time
of 30 seconds and 10 minutes

Proteus mirabilis

Water Control	Polyester Fabric			
	Contact Time	Replicate	Result	Percent Reduction
2.90E+05	30 seconds	1	6.00E+04	79.310
		2	6.00E+04	79.310
		3	6.00E+04	79.310
		4	6.00E+04	79.310
		5	6.00E+04	79.310
		6	6.00E+04	79.310
		7	6.00E+04	79.310
		8	6.00E+04	79.310
		9	6.00E+04	79.310
		10	6.00E+04	79.310
2.90E+05	10 minutes	1	6.00E+04	79.310
		2	6.00E+04	79.310
		3	6.00E+04	79.310
		4	6.00E+04	79.310
		5	6.00E+04	79.310
		6	6.00E+04	79.310
		7	6.00E+04	79.310
		8	6.00E+04	79.310
		9	6.00E+04	79.310
		10	6.00E+04	79.310