

ANTIOXIDANT
&
ANTIMICROBIAL

PHYTOCIDE
Lichen

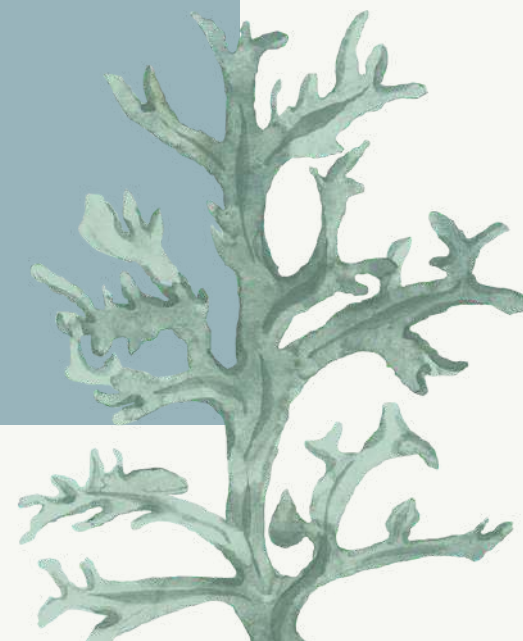


| Organism (ATCC #) | Minimum Inhibitory Concentration (%) |
|------------------------|--------------------------------------|
| E.coli #8739 | 0.25 |
| S. aureus #6538 | 0.12 |
| P. aeruginosa #9027 | 0.25 |
| C. albicans #10231 | 0.12 |
| A. brasiliensis #16404 | 0.12 |



MIC DATA

The ability of PhytoCide Lichen to inhibit the growth of a variety of bacteria and fungi was determined using the Minimum Inhibitory Concentration (MIC) test. The results are illustrated, showing that this material provides broad spectrum antimicrobial protection.





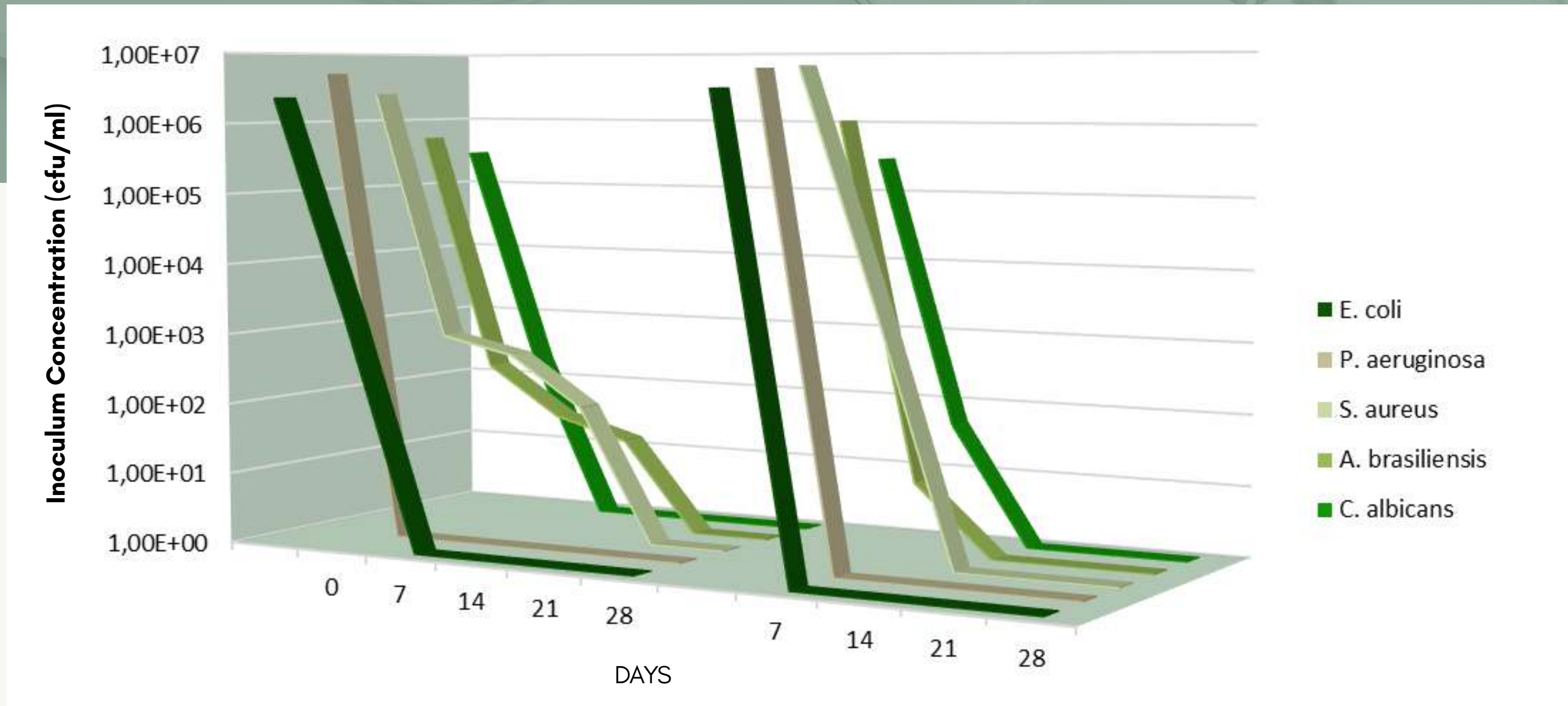
— CHALLENGE TEST

Antimicrobial efficacy testing was completed following the PCPC Section 20 Method 3 (Determination of Preservation Adequacy of Water- Miscible Personal Care Products).

50 g of a generic O/W cream formula containing 1% PhytoCide Lichen was weighed into 5 individual containers. Each container was inoculated with one of the 5 test organisms (*E. coli*, *P. aeruginosa*, *S. aureus*, *C. albicans*, and *A. brasiliensis*).

The inoculated samples were evaluated at 0, 7, 14, 21, and 28 days after the initial inoculation to determine quantitatively the number of viable microorganisms remaining. On the 28th day of testing the samples were re-inoculated and evaluated at 7, 14, 21, and 28 days after the second exposure to determine the number of viable microorganisms.

CHALLENGE TEST



Challenge Test results for Generic Cream Formula with 1% PHYTOCIDE LICHEN, pH7 following the PCPC method. Inoculated on Day 0 and re-inoculated on Day 28. Results show log reduction in viable microorganisms.