

TOXICITY PROFILE - PRO~TEX™ Foaming Hand & Skin Sanitizer

Acute Oral LD50 is > 5.0 g/kg, Category IV
Acute Dermal LD50 >2.0 g/kg, Category III
Eye Irritation – Category III
Skin Irritation – Category IV
Not a Skin Sensitizer

EFFICACY - PRO~TEX™ Foaming Hand & Skin Sanitizer

Time Kill Study

This study is designed to examine the rate of kill of a test substance after inoculation with a test organism. Results are expressed in percent reduction and log reduction of the test organism. Exposure time 15 Seconds

	TEST POPULATION CONTROL (CFU/mL)*	NUMBER OF SURVIVORS(CFU/mL)*	PERCENT REDUCTION	LOG REDUCTION
Candida albicans ATCC 10231	1.6 x 10 ⁵	6.0 x 10 ³	96.3	1.42 Log ₁₀
Clostridium difficile ATCC 9689	3.4 x 10 ⁶	< 2	> 99.9999	> 6.20 Log ₁₀
Enterococcus faecalis (VRE) ATCC 51575 <i>Vancomycin Resistant</i>	1.12 x 10 ⁶	3.2 x 10 ¹	99.99	4.54 Log ₁₀
Escherichia coli ATCC 11229	3.8 x 10 ⁶	4	99.999	6.00 Log ₁₀
Escherichia coli O157:H7 ATCC 35150	1.26 x 10 ⁶	< 2	> 99.999	> 5.80 Log ₁₀
Klebsiella pneumoniae ATCC 4352	1.10 x 10 ⁶	2	99.999	5.70 Log ₁₀
Listeria monocytogenes ATCC 19117	4.7 x 10 ⁶	1.9 x 10 ³	99.9	3.39 Log ₁₀
Pseudomonas aeruginosa ATCC #15442	3.5 x 10 ⁶	< 2	99.9999	> 6.20 Log ₁₀
Salmonella typhi ATCC 6539	1.27 x 10 ⁶	2	99.999	5.80 Log ₁₀
Staphylococcus aureus ATCC #6538	6.7 x 10 ⁶	< 2	> 99.9999	> 6.53 Log ₁₀
Staphylococcus aureus (MRSA) ATCC 33592 <i>Methicillin Resistant</i>	1.23 x 10 ⁷	3.8 x 10 ³	> 99.9	3.51 Log ₁₀
Staphylococcus epidermidis ATCC 12228	7.2 x 10 ⁵	< 2	99.999	5.56 Log ₁₀
Streptococcus pneumonia ATCC 6305	6.4 x 10 ⁵	< 2	> 99.999	> 5.51 Log ₁₀
Streptococcus pyogenes ATCC #19615	1.77 x 10 ⁶	< 2	> 99.999	> 5.90 Log ₁₀
Xanthomonas axonopodis ATCC 49118 <i>(Citrus Canker)</i>	1.28 x 10 ⁶	3.6 x 10 ¹	> 99.99	4.55 Log ₁₀

* Colony forming units per mL of test mixture

CHLORINE EQUIVALENCY TEST - PRO~TEX™ Foaming Hand & Skin Sanitizer

The object of this test is to determine the available chlorine germicidal equivalent concentration of the product as compared to the 200, 100 and 50 ppm available chlorine in the NaOCl standard controls.

Initial suspension Population

Staphylococcus aureus ATCC #6538 7.6 X 10⁸ CFU/mL
Salmonella typhi ATCC #6539 1.2 X 10⁸ CFU/mL

TEST SUBSTANCE	CONCENTRATION	SUBCULTURE SERIES									
		1	2	3	4	5	6	7	8	9	10
TEST ORGANISM: S. aureus											
NaOCl (Control)	200 ppm	0	0	0	0	0	+	+	+	+	+
	100 ppm	0	0	+	+	+	+	+	+	+	+
	50 ppm	0	+	+	+	+	+	+	+	+	+
PRO~TEX™ Foaming Hand & Skin Sanitizer		0	0	0	0	0	0	0	0	0	0
TEST ORGANISM: S. typhi											
NaOCl (Control)	200 ppm	0	0	0	0	0	0	+	+	+	+
	100 ppm	0	0	0	+	+	+	+	+	+	+
	50 ppm	0	0	+	+	+	+	+	+	+	+
PRO~TEX™ Foaming Hand & Skin Sanitizer		0	0	0	0	0	0	0	0	0	0

+ = Growth of Organism, 0 = No Growth of Organism

The subcultures of positive broths (tubes showing Growth) demonstrated pure cultures of the test organism.

EFFICACY RESULTS - PRO~TEX™ Foaming Hand & Skin Sanitizer

PRO~TEX™ Foaming Hand Sanitizer demonstrated an available chlorine equivalent to greater than the 200 ppm NaOCl standard control when tested against *Staphylococcus aureus* and *Salmonella typhi*.