

EFFICACY OF SOFT 'N SURE® FOAMED ANTISEPTIC HANDRUB VERSUS PATHOGENIC MICROORGANISMS USING A TIME KILL STUDY

PURPOSE

Soft 'N Sure Foamed Antiseptic Handrub is a healthcare personnel handwash which contains 62% ethyl alcohol and emollients. The purpose of this study was to demonstrate the antimicrobial efficacy of Soft 'N Sure Foamed Antiseptic Handrub against a broad spectrum of American Type Culture Collection (ATCC) and clinical isolates of pathogenic microorganisms including methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant *Enterococcus faecium* (VREF).

METHODS

For each isolate, greater than 10⁶ colony forming units (CFUs) were inoculated into 10 mL of liquefied Soft 'N Sure Foamed Antiseptic Handrub. At various time intervals (one, three and five minutes), 1 mL samples were removed into an adequate neutralizer. Neutralization is essential to stop the antimicrobial activity at exact time intervals. The number of viable organisms in both the original culture (baseline counts) and after exposure to Soft 'N Sure Foamed Antiseptic Handrub was determined by a standard plate count method.

RESULTS

Against all of the isolates tested, Soft 'N Sure Foamed Antiseptic Handrub demonstrated a total reduction in bacterial counts by the first sample time. Thus, for the initial level of organisms greater than 1 million CFUs, no detectable organisms remained following exposure to Soft 'N Sure Foamed Antiseptic Handrub (detection limit <10 CFU/mL). The results are presented in Table 1.

Table 1: Efficacy of Soft 'N Sure Foamed Antiseptic Handrub vs. Pathogenic Microorganisms

Test Organism	ATCC Isolates	Clinical Isolates	*Log Reduction (at 60 Seconds)	Percent Kill
<i>Staphylococcus aureus</i>	1	-	7.8	>99.999
Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA)	3	5	7.6	>99.999
<i>Staphylococcus epidermidis</i>	2	2	7.1	>99.999
<i>Streptococcus pyogenes</i>	3	3	6.5	>99.999
<i>Enterococcus faecalis</i>	4	-	6.9	>99.999
Vancomycin Resistant <i>Enterococcus faecium</i> (VREF)	-	4	6.5	>99.999
<i>Escherichia coli</i>	4	3	7.6	>99.999
<i>Klebsiella pneumoniae</i>	4	-	7.7	>99.999
<i>Pseudomonas aeruginosa</i>	4	4	7.8	>99.999
<i>Serratia marcescens</i>	2	2	8.0	>99.999
<i>Candida albicans</i>	4	4	6.3	>99.999

*Complete Log Reduction observed at the first sample time. Detection limit <10 CFU/mL

CONCLUSION

Soft 'N Sure Foamed Antiseptic Handrub demonstrates broad spectrum efficacy and rapid kill. Skin drying and irritation associated with higher concentrations of alcohol have been minimized by the emollients included in the formulation of Soft 'N Sure Foamed Antiseptic Handrub.

Reference

Research and Development Notebook No. 5280, pp 66-88

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