VIONEXUS NO RINSE SPRAY

Technical Bulletin

VioNexus No Rinse Spray is a waterless, ethanol-based Healthcare Personnel Handwash intended to be used in medical offices, dental offices, veterinary offices, clinics and hospitals. It provides a convenient and economical way to cleanse and kill germs on your hands when soap and water are not available. VioNexus contains benzalkonium chloride for additional residual kill and added emollients to keep skin moisturized.

Efficacy Studies

Methicillin Resistant *Staphylococcus aureus* (MRSA)
Vancomycin Resistant *Enterococcus faecalis* (VRE)
Streptococcus pyrogenes
Salmonella cholerasuis
Serratia marcescens
Escherichia coli

"Determination of the Antimicrobial Efficacy of VioNexus Using the Healthcare Personnel Handwash Procedure"
BioScience Laboratories, Inc. November 21, 2000. Final Report #000228
Conclusion: The antimicrobial activity of VioNexus was determined, using *Serratia marcescens* as a marker organism for hand contamination, on 12 human subjects. VioNexus resulted in a greater than 3 $\log_{10}$ reduction, which means that greater than 99.9% of bacteria did not survive on the hands after being treated with VioNexus. The 3 $\log_{10}$ reduction was maintained even after 10 repeated applications of bacteria and then VioNexus. VioNexus is efficacious in-vivo as a Healthcare Personnel Handwash.

"Kill Time Study: Methicillin Resistant *Staphylococcus aureus* (MRSA) AND Vancomycin Resistant *Enterococcus faecalis* (VRE)"
MicroBiotest, Inc. August 10, 2001. Lab ID No. 450-102
Conclusion: VioNexus produced a greater than 5.11 $\log_{10}$ reduction of Methicillin Resistant Staphylococcus areus (MRSA) and a greater than 4.83 $\log_{10}$ reduction of Vancomycin Resistant Enterococcus faecalis (VRE) at contact times of less than thirty (30) seconds. VioNexus is efficacious against MRSA and VRE.

"Efficiency of VioNexus for Hand Degerming"
University of Pennsylvania. February 15, 1995
Conclusion: In a comparison of the total percent reduction in hand flora, VioNexus demonstrated effective hand degerming by reducing total flora 98.5%. VioNexus was comparable to three top competitor alcohol-based products.

"Kill Time Study"
Nelson Laboratories, Inc. April 3, 1995. Laboratory No. 73819
Conclusion: VioNexus demonstrated 99.9% kill of *Salmonella cholerasuis*, *Escherichia coli*, and *Streptococcus pyrogenes* in as little as 30 seconds.

Toxicity Studies

"Acute Toxicity Testing"
Northview Pacific Laboratories, Inc. February 4, 1991. Laboratory Project ID NVP Report No. X8B113G

Test	**Result**
Acute Oral Toxicity	An oral dose of 5 g/kg produced no mortalities
Acute Dermal Toxicity Test	A dose of 2 g/kg produced no mortalities
Primary Skin Irritation Test	Virtually non-irritating
Primary Eye Irritation Test	Produces moderate, temporary eye irritation*

Conclusion: VioNexus is non-toxic upon oral ingestion at the dose stated above. It is non-toxic upon skin contact, non-irritating as a primary skin irritant, and is a moderate, but temporary primary eye irritant.

*Slight temporary conjunctivitis and discharge cleared after about seven (7) days