

Chlorhexidine gluconate (CHG) is an antiseptic agent. The efficacy of antiseptic agents can be assessed by using time-kill kinetics to document antimicrobial activity, and the ability to kill bacteria and prevent re-growth. IriSept® (0.05% CHG formulation), an FDA-cleared irrigation solution was evaluated using time-kill kinetics. Following standard methodology 18 separate Gram-positive and Gram-negative bacteria were exposed to IriSept® at 1, 5 and 30 minutes. Each assay was repeated three times and results averaged. Fourteen of the 18 isolates were recovered from previous surgical site infections. *In-vitro* log-reduction studies using documented Gram-positive and Gram-negative surgical pathogens found that IriSept® (0.05% CHG) was effective in reducing microbial counts by a factor equal to or greater than 99.99%.

Reduction of Microorganisms from Baseline (Log Reduction/Percent Reduction)

Bacteria	One Minute	Five Minutes	30 Minutes
<i>Pseudomonas aeruginosa</i> (ATCC 27853) Initial Count -6.8E+08	>10-6 >99.9999%	>10-6 >99.9999%	>10-6 >99.9999%
<i>Pseudomonas aeruginosa</i> (SCI) Initial Count -1.59E+09	>10-6 >99.9999%	>10-7 >99.99999%	>10-7 >99.99999%
<i>Klebsiella pneumonia</i> (ATCC 10031) Initial Count -5.17E+08	>10-6 >99.9999%	>10-6 >99.9999%	>10-6 >99.9999%
<i>Klebsiella pneumonia</i> (SCI) Initial Count -5.10E+08	>10-6 >99.9999%	>10-6 >99.9999%	>10-7 >99.99999%
<i>Enterobacter aerogenes</i> (SCI) Initial Count -7.27E+08	>10-6 99.9999%	>10-6 >99.9999%	>10-7 >99.99999%
<i>Escherichia coli</i> (SCI-1) Initial Count -6.37E+08	>10-6 >99.9999%	>10-6 >99.9999%	>10-6 >99.9999%
<i>Escherichia coli</i> (SCI-2) Initial Count -6.17E+08	>10-6 >99.9999%	>10-6 >99.9999%	>10-6 >99.9999%
<i>Acinetobacter baumannii</i> (SCI-2) Initial Count -7.60E+08	>10-6 >99.9999%	>10-6 >99.9999%	>10-6 >99.9999%
<i>Staphylococcus aureus</i> (MRSA) (SCI) Initial Count -4.80E+08	>10-5 >99.999%	>10-6 >99.9999%	>10-6 >99.9999%
<i>Staphylococcus aureus</i> (MSSA) (SCI) Initial Count -2.54E+08	>10-5 >99.999%	>10-6 >99.9999%	>10-7 >99.99999%
<i>Enterococcus faecium</i> (Vancomycin Resistant-1, SCI) Initial Count -1.7E+09	>10-4 >99.99%	>10-5 >99.999%	>10-6 >99.9999%
<i>Enterococcus faecium</i> (Vancomycin Resistant-2, SCI) Initial Count -4.2E+08	>10-4 >99.99%	>10-5 >99.999%	>10-6 >99.9999%
<i>Enterococcus faecium</i> (Vancomycin Sensitive-1, SCI) Initial Count -1.51E+08	>10-4 >99.99%	>10-5 >99.999%	>10-6 >99.9999%
<i>Enterococcus faecium</i> (Vancomycin Sensitive-2, SCI) Initial Count -7.0E+08	>10-4 >99.99%	>10-5 >99.999%	>10-6 >99.9999%
<i>Streptococcus pyogenes</i> (SCI) Initial Count -8.8E+07	>10-4 >99.99%	>10-5 >99.999%	>10-6 >99.9999%
<i>Staphylococcus epidermidis</i> (ATCC 35984, RP-62) Biofilm forming organism Initial Count -2.02E+08	>10-6 >99.9999%	>10-6 >99.9999%	>10-6 >99.9999%
<i>Staphylococcus epidermidis</i> (ATCC 14990) Initial Count -1.33E+08	>10-5 >99.999%	>10-6 >99.9999%	>10-6 >99.9999%
<i>Staphylococcus epidermidis</i> (SCI) Initial Count -1.24E+08	>10-5 >99.999%	>10-6 >99.9999%	>10-6 >99.9999%