The Antibacterial Agent Triclosan as a Growth Inhibitor of Staphylococcus aureus and Staphylococcus epidermidis

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Triclosan is an antibacterial and antifungal agent used in commercial goods since 1972, and is now found in a wide variety of household items and personal care products (PCPs). Factors including the concentration of liquid hand soap and chemical exposure time were tested on cultures of Staphylococcus aureus and Staphylococcus epidermidis to determine bactericidal efficacy and effective concentrations of liquid hand soap available. Cultures were incubated and rated after 24 and 48 hours, and were rated semi-quantitatively on a visual growth scale of 0-4. No inhibition of bacterial growth occurred when cultures were exposed to triclosan-free soap (NON). Using an ANOVA (Analysis of Variance) statistical test with repeated measures on both factors using a p-critical value of .05, the concentration of triclosan containing soap (TCS) was found to be statistically significant while the time of exposure was not. Concentration and time were also found to be uncorrelated. Triclosan containing soap was fairly effective at higher concentrations. After 48 hours, 58% of S. epidermidis bacteria and 94% of S. aureus bacteria showed growth after an initial rating of 0, showing that triclosan can act as a bacteriostatic agent in concentrations of less than 0.46% TCS.

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