Evaluating the Effect of Selected Synthetic Chemicals on the Growth of *Pseudomonas spp.* in Nitrile Latex

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Glove industry isconsiderable among the industries operating in Sri Lanka because of its significant contribution to the national economy. The presence of microorganisms in latex makes a severe impact on the properties of final product and, on human health. Specially, the *Pseudomonas spp.* pathogenic on human reported to produce a problematic bacterial slime layer on latex dipping tanks, in nitrile latex based disposable glove industry. This study was conducted to select a suitable synthetic antimicrobial chemical compounds to produce good quality glove products at low cost and withless impacts on human health. *Pseudomonas spp. bacteria* were isolated on selective culture medium, and identity of the bacterium wasconfirmedusing gram staining, methyl red reduction, H2S and the catalase tests. The effectiveness of changing process parameters such as pH level and temperature according to company standards and selected synthetic antimicrobial compounds namely; acticide biocide and proxel gel biocide were evaluated. The effect of changing process parameters and selected synthetic chemical compounds on tensile properties of the nitrile latex gloves were statistically tested,using one-way ANOVA. Accordingly, a significant reduction of bacterial growth on nitrile latex with decreased tensile properties on gloves was found after adjusting pH level of latex dipping tank into 10.5 using KOH and NH3. Further, the treatment with biocides wasidentified as the best bacterial control method and it was found that the acticide biocide was better than proxel gel biocide. Treatment with acticide biocide in the medium did not result in a significantdamage on the tensile properties of nitrile latex gloves. Therefore, acticide biocide can be applied for minimizing the growth of *Pseudomona sspp.* in nitrile latex glove production at low cost and with high bio security.

Keywords: Biocides, Gloves, Nitrile Latex, *Pseudomonas spp.*