

Faculty of Life and Social Sciences

Effectiveness of Safe and Sustainable Cleaning Practices in Childcare Centres

For the Safe and Sustainable Indoor Cleaning Project

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A full copy of this report is available on request by contacting:

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Effectiveness of Safe and Sustainable Cleaning Practices in Childcare Centres

For The Safe and Sustainable Indoor Cleaning Project

EXECUTIVE SUMMARY

The Faculty of Life and Social Sciences, Swinburne University of Technology, conducted an investigation into the effectiveness of a range of cleaning practices in two childcare centres within inner Melbourne. The investigation was a component of The Safe and Sustainable Indoor Cleaning Project, funded by the Sustainability Fund, managed by Sustainability Victoria, of which Fresh Green Clean were the funding recipients. The investigation took place between June and August 2007.

Cleaning is necessary for creating a good indoor environment, maintaining an acceptable level of perceived cleanliness, preventing surface degradation, controlling the potential risk of infection from microorganisms and dust exposure in general, and is economically beneficial. However, the use of cleaning agents can contaminate indoor air and outdoor environments. Over recent years there has been an increased shift to the use of non-toxic 'green' or 'environmentally friendly' products, as a means to reduce exposure to cleaning agents. Anecdotally, childcare centres have also been showing an increased interest in the use of 'green' or 'environmentally friendly' materials, including disinfectants, as part of their cleaning practices.

However, literature surrounding the effectiveness of non-toxic or 'green' substances as a means of reducing microbial load is limited. The purpose of this research was to investigate the efficacy of the current cleaning regimes in two centres, involving the use of disinfectants, and compare this with the application of a plant based, non hazardous detergent diluted with warm water.

The investigation was an experimental design, and involved two sets of sampling for bacteria, including the bacteria *Staphylococcus aureus* and *Escherichia coli* which are indicators of hygienic practices, in conjunction with a Total Plate Count, a common test applied to indicate microbiological presence.

The results indicated that using a plant based, non hazardous detergent diluted with warm water was as effective in reducing the amount of bacteria on the surfaces tested as were other cleaning materials, such as disinfectants, in these two centres.

This is consistent with the guidelines set by the National Health and Medical Research Council (NH&MRC) 'Staying Healthy in Child Care - Preventing Infectious Disease: 4th Edition'. These Guidelines highlight that the cleaning of these surfaces with detergents followed by rinsing and drying, removes the bulk of germs and that disinfectants are usually unnecessary. An exception to this is in an infectious disease outbreak situation, where health authorities may stipulate the use of a specific disinfectant, in addition to the normal cleaning processes.