The biocidal effect of potassium sorbate for indoor airborne fungi remediation

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Received 5 October 2014; Accepted 16 November 2014

\textbf{ABSTRACT}

Indoor air contamination by fungi is common nowadays. It creates health problems, especially in people with asthma. Approximately 80% of these patients are allergic to fungus. In this study, a bioactive compound, potassium sorbate which is actively used in the food industry for antifungal purposes was evaluated for its ability to treat indoor airborne fungal contamination in two higher educational buildings at a university in Johor, Malaysia. Indoor air samplings of fungi were carried out at three different sites in each building using malt extract agar (MEA), which were incorporated with the mentioned biocide as culture media. It was shown under indoor and outdoor conditions that fungi were able to colonize untreated MEA. The effectiveness of the biocide to prevent the growth of fungi on treated MEA was compared with that of untreated MEA. It was clearly shown that the biocide can effectively prevent the airborne fungal growth at all six sites as the number of colony forming units was drastically reduced by more than 88% averagely on the treated culture media as compared with that of the untreated media.

\textit{Keywords:} Indoor air quality; Occupational safety and health; Mold; Biocides; Airborne fungal pollution

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\textit{Presented at the International Conference on Business, Economics, Energy and Environmental Sciences (ICBEEES) 19–21 September 2014, Kuala Lumpur, Malaysia}

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