Examination of the cleaning effect of EM·Effective® Microorganisms

DI (FH) D. Haslinger, DI R. Burgholzer, FH Prof. Dr. A. Jäger
Fachhochschule Upper Austria, Wels Campus, Stelzhammerstr. 23, A-4600 Wels

Wels Campus
Bio- and Environmental Technology Studies

Cleaning with EM·Effective® Microorganisms

- eMC® cleaner is based on EM-Effective® Microorganisms, which should split and dissolve dirt. This cleaning effect is enhanced by the addition of various biological additives.
- The following work is intended to show if, with regard to its effectiveness, eMC® cleaner is in any way inferior to chemical cleaning agents.
- The tests were carried out in a diversity of establishments and buildings. Products used regularly in the test objects were employed as comparative cleaners. In addition, a disinfectant that meets the demands of the ÖGHMP* and DGHM** was utilised as a reference in all the test objects.

Results

- Immediately after cleaning, the eMC® cleaner and the comparative cleaning agents achieved virtually identical results and were only marginally surpassed by the disinfectant.
- 24-48h following application, the surfaces cleaned with eMC® showed fewer bacteria than those cleaned conventionally (Fig.4). eMC® cleaned surfaces also demonstrated fewer high bacteria count groups (Fig.5).
- The cleaning effect is dependent upon the cleaner concentration. In the course of time, an eMC® cleaner dilution of 1:100, showed superior results to a 1:1000 solution (Fig. 6). Nonetheless, the eMC® cleaner is effective within an extremely wide range of dilutions.

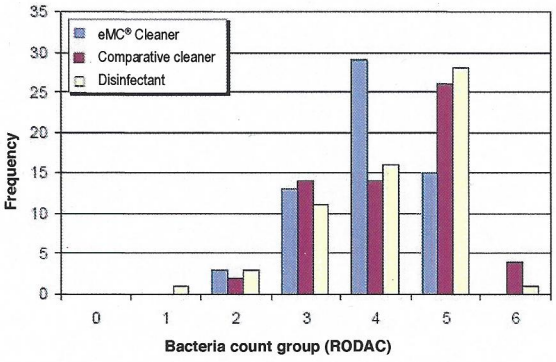


Fig 5 Bacteria count group frequency (0-6)

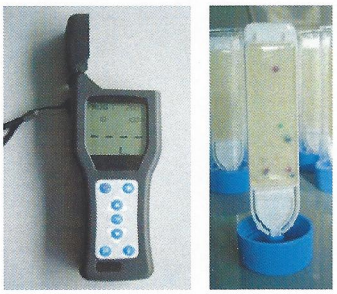
*Österreichische Gesellschaft f. Hygiene, Mikrobiologie und Präventivmedizin
**Deutsche Gesellschaft f. Hygiene und Mikrobiologie

Thanks. The project was sponsored by Multikraft Produktions- und HandelsgmbH

Materials and methods

The surfaces were cleaned and examined for impurities using the following methods:

- ATP measurement, luminescence method
- Microbiological examinations: determination of the total number of bacteria and the coliform impact using the Envirocheck® Rodac



Figs 2 and 3 Microbiological examinations: total coliforms and bacteria counts

Fig 1 System Sure II Luminometer for ATP-measurement

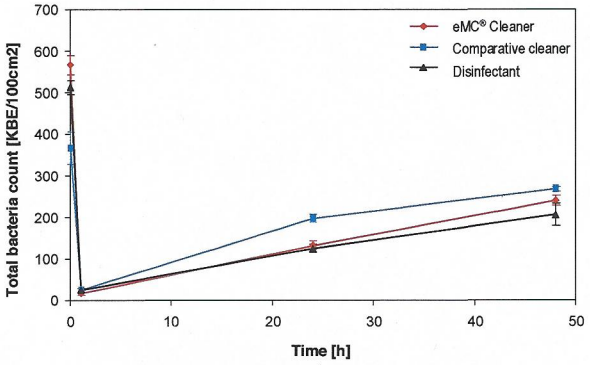


Fig 4 Cleaning effect: cleaning agent comparison

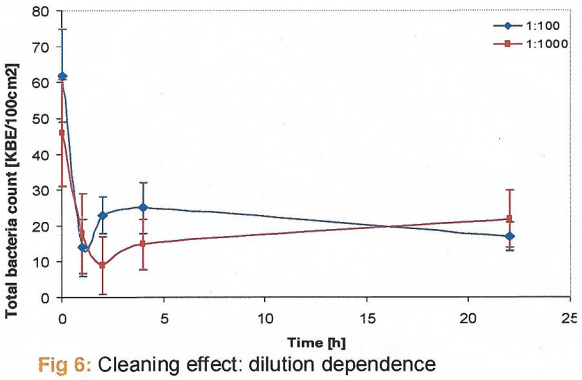


Fig 6: Cleaning effect: dilution dependence

Conclusion

The cleaning capacity of eMC® cleaners is comparable with that of conventional chemical cleaning agents. eMC® cleaner is effective in a wide range of concentrations. The recurrence of bacteria on surfaces cleaned with eMC® is lower.