

Dish-washing, Laundry-washing, Green-washing – What Will Professional Cleaning Look Like in the Future? Event report Professional Cleaning and Care (PRP) 2024

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On June 3 and 4, 2024, leading representatives of the cleaning and hygiene industry met at the Steigenberger Inselhotel in Constance for the annual conference of the SEPAWA Professional Cleaning & Care specialist group. The event is aimed at manufacturers and users of professional cleaning products and has been providing information on the latest developments in the industry for more than fifteen years. This year's conference was chaired by Prof. Dr. Tobias Kimmel.

The theme of the 2024 conference - "Dish-washing, Laundry-washing, Green-washing" - highlighted the future direction of professional cleaning, focusing on environmental aspects, technological developments and health aspects. Particular attention was paid to sustainability, for example through the evaluation of environmentally friendly cleaning agents and compliance with strict environmental standards.

Other focal points were the technological development of the industry, such as new disinfection methods and research into water-soluble polymer packaging in the detergent industry. Practical presentations and contributions from experts in the fields of cleaning, care and hygiene provided participants with valuable insights into the latest innovations.

On the evening of the first day of the event, the traditional dinner together on the lakeside terrace provided an opportunity for a lively exchange in a relaxed atmosphere. The next conference will take place in Constance again on May 19 and 20, 2025.

Here is an overview of the presentations given.

Test methods for biocidal efficacy in dish and laundry disinfection

Dr. Florian Brill,

Dr. Brill + Partner GmbH, Hamburg

The two-stage procedure for efficacy assessment in accordance with the Biocidal Products Regulation (BPR) includes basic laboratory tests (stage 1) and practical tests (stage 2). While EN 14885 and ECHA guidelines describe predefined test methods for efficacy testing of textile and tableware disinfectants, the performance of practical tests is more complex. Textile disinfectants are categorized into PT 2 and PT 3 product types, while tableware disinfectants fall under PT 4. In level 2, EN 16615 and ASTM standards provide specific procedures for laundry disinfectants, including use in washing machines or alternative laboratory methods if machine use is excluded.

However, there are no detailed specifications for dishwasher disinfection, and factors such as dishwasher characteristics have a significant influence on the test results. The more practical the tests, the more variables influence the results and require extensive data collection. A CEN TC 216 working group is working on the harmonization of practical test methods at European level.

Dr. Brill also discussed field studies (Phase 3), the results of which are often not transferable due to realistic but less standardized test conditions. Field studies can support specific applications and have a marketing benefit, but are highly dependent on factors such as surface materials and realistic contamination levels. The need for standardized documents for Phase 3 studies remains a key concern.

Risk assessment of the transmission of microorganisms through drinking glasses

Prof. Dr. Benjamin Eilts,

Albstadt-Sigmaringen University of Applied Sciences

Prof. Dr. Benjamin Eilts from the Albstadt-Sigmaringen University of Applied Sciences investigated the microbial contamination of drinking vessels caused by a wave of infections at

the Stuttgart Spring Festival. The focus was on glass and plastic containers, which were compared in terms of their cleaning properties. The results showed that plastic had a higher overall contamination and became rougher with repeated rinsing, making cleaning more difficult. Plastic jars also dried less well than glass. Pig skin was used as a model to simulate the transmission of germs to humans. Commercial machine rinsing led to a greater but limited reduction in germs, as only a mild program without bleach was used.

Reprocessing of cleaning textiles from the healthcare sector in accordance with DIN 13063

Andre Tomczyk,
 Hohenstein Laboratories GmbH & Co. KG, Bönnigheim

Mr. Andre Tomczyk from Hohenstein Laboratories presented practical experience on the microbiological quality assurance of cleaning textiles in accordance with the new DIN 13063 standard. The reprocessing of wet wipe textiles, which are frequently used in medical facilities, is subject to various influences and requires compliance with specific standards and guidelines, including KRINKO specifications for a disinfecting washing process. The aim of DIN 13063 is to reduce the spread of nosocomial infections and multi-resistant pathogens through specific requirements for hygienic cleaning in hospitals.

A recent study conducted by Gütergemeinschaft Textilservice e.V. under DIN conditions compared washer extractors and tunnel washers. The results show that washer extractors and open-washed textiles had lower bacterial counts than textiles processed in nets or tunnel washers. A germ group differentiation covered the contamination by aerobic spore formers, coagulase-negative staphylococci and molds.

In addition, cleanliness tests were established in the Hohenstein laboratory, which identified the storage of moist wipes in particular as a critical factor. Tomczyk emphasized the importance of DIN 13063 for improved hygiene standards in the healthcare sector and expects it to be established soon in order to sustainably improve hygiene quality in medical facilities.

Future development of the EU Ecolabel

Dr. Sebastian Burck,
 RAL gGmbH, Bonn

In Constance, Dr. Burck, representative of RAL and the Federal Environment Agency for the EU Ecolabel in Germany, presented the current status and planned revisions of the EU Ecolabel. The focus is on the growing importance of sustainability, which is reflected in the multiplication of cleaning products certified as environmentally friendly. Dr. Burck explained the criteria for submission, including the timeliness of safety data

sheets and planned process optimizations, such as a central database and staff increases. Discussed changes include stricter limits, a ban on phosphonates and the introduction of recycle requirements for packaging. The revision should be completed by the second quarter of 2026.

Projects in the detergent and cleaning agent sector: conventional vs. organic products

Dr. Sara Wagner-Leifhelm,
 Stiftung Warentest, Berlin

Dr. Wagner-Leifhelm presented the history and work of Stiftung Warentest, which has carried out over 10,000 product tests since 1964. Despite growing demand for sustainability, a new study showed that only 30% of consumers are still willing to pay more for environmentally friendly products due to inflation. Stiftung Warentest aims to inform consumers and promote sustainable consumption. In the tests on hand dishwashing detergents and dishwasher tabs, ecological products scored only averagely compared to conventional ones, with any environmental benefits not being clearly recognizable. The environmental claims of many products also remained questionable and were critically assessed, as were the preservatives used.

The IHO sustainability report – decision-making, structure, content, compliance

Dr. Thomas Rauch,
 Industrial Association for Hygiene and Surface Protection, Frankfurt am Main

On the second day of the event, Dr. Thomas Rauch, Managing Director of the IHO, presented the first sustainability report of the Industrial Association for Hygiene and Surface Protection, which documents the industry's environmental initiatives and successes. The report is the result of two years of work by the Sustainability Working Group (AK N), which was founded in 2020, and includes data from 24 of the 53 IHO member companies. These companies represent 64% of employees and 78% of the IHO's product volume.

The report shows that over 70% of companies have established internal guidelines on the use of raw materials and that the "EU Ecolabel" and the "Blue Angel" are frequently sought. The total packaging volume of the companies surveyed is 7823 tons, 43% of which is recyclable. However, sustainable packaging poses challenges in terms of costs and quality standards. In terms of climate protection strategies, 33% of the participating companies calculate their carbon footprint according to the GHG Protocol and 13% are involved in compensation programs. At 51%, IHO members also use significantly more renewable energy than the national industry average of 42%. The sustainability report under-

lines the industry's role in the implementation of global environmental goals such as the EU Green Deal and the SDGs.

Biosurfactants – “greenwashing” or “green washing”?

Dr. Joachim Venzmer,

Evonik Operations GmbH, Essen

Dr. Joachim Venzmer presented the advantages of the still young surfactant class of rhamnolipids for detergents and cleaning agents. These bio-based surfactants are synthesized naturally by fermentation of a non-pathogenic bacterial strain and offer numerous advantages over conventional surfactants. Rhamnolipids exhibit high washing power regardless of water hardness, are particularly environmentally friendly and have low aquatic toxicity. Compared to conventional surfactants such as sodium lauryl ether sulphate, their tendency to protein denaturation is low, which increases enzyme compatibility. Rhamnolipids also prevent stress cracking in plastics. Despite their high effectiveness and environmental compatibility, their high price and strong foaming properties still pose challenges for widespread use.

Optimization of the water solubility of loadable polymer matrices

Nelson Zombou,

East Westphalia-Lippe University of Applied Sciences, Lemgo

Mr. Zombou presented his research on optimizing the water solubility of loadable polymer matrices used as detergent strips. These consist of polyvinyl alcohol and glycerine and can absorb various detergent ingredients, such as fragrances. In his bachelor's thesis, Mr. Zombou developed a formulation to produce water-soluble washing strips that dissolve quickly and have a high fragrance intensity. However, the actual cleaning performance remained unclear, although some manufacturers claim comparable effectiveness to conventional detergents. The environmental benefits were also critically questioned, as the CO₂ savings during transportation could be offset by emission-intensive manufacturing processes.

Possibilities and limits of the development of water-soluble pods

Claas-Simon Smaak,

HARKE PackServ GmbH, Bochum

The in-house film producer offers flexible film options with layer thicknesses of 30-90 µm. The printable films (e.g. for CLP labeling) are compatible with the EU Ecolabel and Nordic Swan. They are suitable for applications such as detergent, dish and surface cleaning as well as construction, agricultural and swimming pool chemicals. Non-oxidative ingredients such as enzymes, alcohols and glycols are usually unproblematic, while aldehydes and halogen compounds should be avoided. Water content and storage conditions have a considerable influence on the stability of the pods. Pods (1-2000 g, up to three chambers) are produced using the thermoforming process, whereby a viscosity of the solutions >100 mPas is recommended.

You can read the detailed event report in SEPAWA's annual newsletter, which is expected to be published in January 2024 at www.sepawa.com.

Save the Date: The PRP lecture event will take place again in 2025 from May 19 - 20 at the Steigenberger Hotel Constance.

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