

“Microbe Protect” Innovative Product Line with nanosilver active ingredient complex from Epple Druckfarben AG

Neusäß, 30 June 2020

In times of health and social challenges, Epple Druckfarben AG, Neusäß makes its adequate contribution to safe printing: The innovative product line Microbe Protect 2400 includes an additive, which reduces bacteria and viruses with its exclusive nanosilver active ingredient complex. The anti-microbial and antiviral effectiveness of the active ingredient is proven.¹⁾ The new water-based gloss varnish Finishfit Microbe Protect 2400 is the start of this innovative product line. Further products will follow soon.

“Every sector must throw its full innovative power behind curbing the present and future pandemics”, says Helmut Fröhlich, Product Line Manager at Epple. “A first key element in sheet offset printing is the new water-based gloss varnish Finishfit Microbe Protect 2400, which printing works or their customers can use instantly to create an additional effective virus protection. The application of the varnish ranges from pharmaceutical and food packaging to magazines, playing cards and other printed products that require active surface protection.” Mr Fröhlich’s colleague, Dr. Vroni Walter, Head of Research and Development at Epple, has worked on the development of the product with her team. “The gloss varnish Finishfit Microbe Protect 2400 includes an additive based on a special nanosilver-containing formulation with a specially activated active ingredient. The anti-microbial and antiviral effectiveness of the active ingredient has been proven.”¹⁾ Dr. Walter says. Finishfit Microbe Protect 2400 is the result of 18 months of development work with the renowned nanoscale research company RAS AG, Regensburg as well as state funding from the German Federal Ministry of Economic Affairs and Energy as part of the Central Innovation Programme for SMEs. Elementary silver has long been used as an



effective antibacterial agent. This antimicrobial property was put to good use in dispersion varnishes in the joint development project.

The antimicrobial mode of action

The elementary silver-nanoparticles (Ag^0) firmly anchored in the varnish film release positively charged silver ions (Ag^+), which significantly reduce the number of bacteria and viruses on the surface of the varnish.

Finishfit Microbe Protect 2400 satisfies the exacting safety and sustainability requirements of our health policy and of society. The functionality of the active ingredient in the varnish was tested on a print sample in accordance with ISO 22196 against the bacterial species *Escherichia coli* (*E. coli*) and *Staphylococcus aureus* (*S. aureus*) and showed a reduction of up to 99.99 %. Its effectiveness depends on the concentration of the active ingredient and is permanent (24/7) and long lasting active. It also greatly contributes to the protection of human health and the environment: Silver-nanoparticles are not released from the dried varnish film nor can they be rubbed off.³⁾ The active ingredient is also used in medical masks as viral protection.²⁾

Stefan Schülling, Member of the Executive Board responsible for Sales and Finance, is delighted that Epple Druckfarben AG can support its customers during the Covid-19 pandemic with an innovative product line that offers additional benefits in addition to the classic coating properties. "During the development phase the acute significance of the product in this urgency could not be foreseen," Mr Schülling says. "Now we are extremely pleased at the timely offering – further evidence of our innovative leadership. Our experience, in particular from our close partnership with the coatings manufacturer Pulse Printing Products Ltd., Bristol (UK), has been extremely helpful in developing this product, especially when it came to production."

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Finishfit Microbe Protect 2400

Making the world safer



The gloss varnish Finishfit Microbe Protect 2400 includes an additive based on a special nanosilver-containing formulation with a specially activated active ingredient.

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- 1) <http://dx.doi.org/10.1016/j.biomaterials.2014.01.054>
- 2) <https://heiq.com/2020/03/16/heiq-viroblock-antiviral-textile-technology-against-coronavirus/>
- 3) a. M. Henker, M. Becker, S.- L. Theisen, M. Schieß, Deutsche Lebensmittel-Rundschau (2013), p. 194
b. M. Vorbau, L. Hillemann, P. Fiala, M. Stintz, A. Rommert, D. Eichstädt, Farbe und Lack 116 (2010) 12, p. 25



COMPANY INFORMATION

Epple Druckfarben AG stands for pure perfection in every detail. Since it was founded in 1870, the company has epitomised continuous development and the highest quality standards. As one of the leading producers of offset inks, Epple has demonstrated its innovative strength in the early development of its mineral oil-free eco series and special ink types for very long intervals between wash-ups in perfecting. Its innovation is shown once more in its range of inks for food packaging with the patented products BoFood® MU and BoFood® Organic. Sustainability and flexibility are given high priority for the medium-sized family business. Epple is rare among companies in that it offers customised solutions for the individual requests of its global customers.

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