



Sustainable Printing Inks Project

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The Recyclate Initiative from Werner & Mertz is taking on a new challenge in matters of sustainability. Now that the project team has made plastic bottles from recycled material, it aims to produce printing inks according to the Cradle-to-Cradle® principle too.

In the Cradle-to-Cradle® Printing Inks Project, Werner & Mertz has initiated development of sustainable UV printing inks in collaboration with the ink manufacturer Siegwirk Druckfarben AG & Co. KGaA and the EPEA Switzerland (Environmental Protection Encouragement Agency). "We have long wished for industry to push the development of sustainable UV printing ink. Thanks to the Initiative from Werner & Mertz and the engagement and know-how from Siegwirk and EPEA, we were able to take the critical steps that finally led to a breakthrough," said Albin Kälin, CEO of EPEA Switzerland.

The makeup and fine tuning of ingredients make the difference

The objective of the cooperation was the development of a printing ink system or coatings which could be assessed in accordance with the Material Health Methodology at the GOLD level. One of the most frequent problems with conventional printing ink is that many of the normally used pigments do not comply with EPEA requirements. It was therefore the main objective of the Initiative to use pigments that are safe for biological cycles. "To achieve that level of safety, the original color values had to be shifted slightly. The alternative pigmentation, however, cannot be perceived by the human eye," said Immo Sander, Packaging Development Manager at Werner & Mertz. "Furthermore, the pigment alone is not responsible for the final color rendering. The printing ink system and the background on which it is printed also play a role."

Working together, Siegwirk and EPEA Internationale Umweltforschung GmbH thoroughly tested and fine-tuned all the components of the printing ink system or coatings. Then they clarified all open issues regarding toxicology. The newly developed printing ink system is classified as "low-migration packaging" (chemicals do not migrate or move from packaging to product), which is suitable for use with cosmetics and foodstuffs.

As in the Recyclate Initiative, sustainability means progress for Siegwirk. One of the leading manufacturers of printing ink, the company sees its responsibility in setting a good example.

"We have committed ourselves to sustainable development that always keeps the needs of the current and future generations in mind," said Siegwirk CEO Herbert Forker, about the company's vision. "That's why we, as a partner, are so pleased to be able to contribute our expertise to this new development. Siegwirk's research and development teams work continuously on improving the printing ink's ecological footprint while maintaining its strong performance."

Initial Tests Successful



Sustainable printing ink for the labels on Frosch Citrus Bath & Shower Cleaner is now being tested. The goal is to obtain an assessment from Material Health Certification at the GOLD level. Photo: Werner & Mertz

Siegwerk has already conducted successful proof tests with original material from Werner & Mertz on its in-house print machinery. The results were overwhelmingly positive, with good ink printability on polypropylene (PP), polyethylene (PE) and paper. External tests also delivered positive results.

In May additional tests of Werner & Mertz products will be made in other print shops for the labels of Frosch Citrus Bath & Shower Cleaner and the front labels of *green care* PROFESSIONAL products for commercial users. Those products have already earned Cradle to Cradle Certified™ GOLD and their packaging either BRONZE or SILVER.

After the print tests, Werner & Mertz will validate the colorimetry and print sample. Then an EPEA accredited expert can assess the inks for MHC certification. At the same time the scientifically based statements regarding material health are documented.

The development of printing ink is an important step in the development of sustainable labels and packaging according to the Cradle-to-Cradle® principle.

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