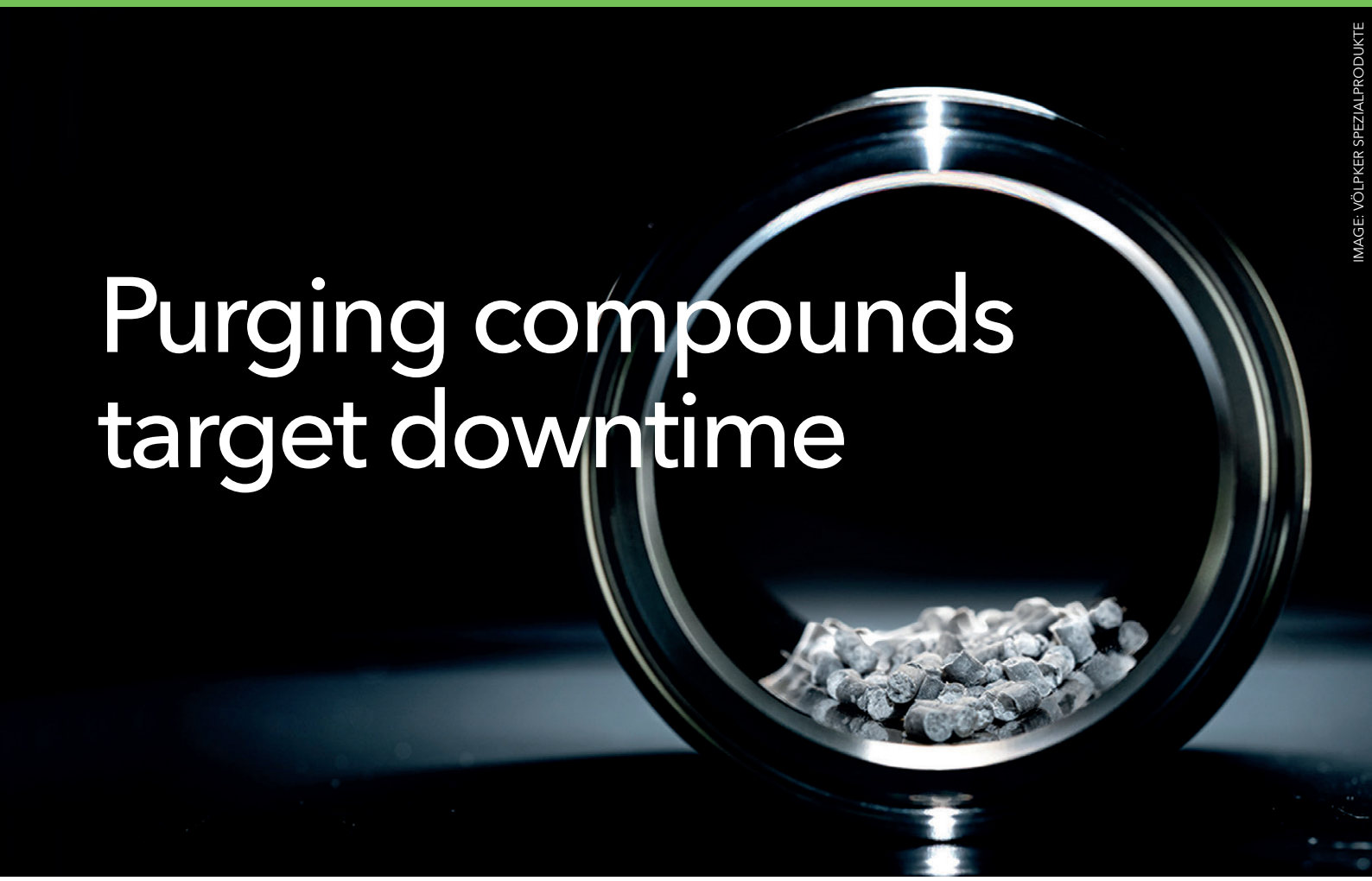

IMAGE: VÖLPKER SPEZIALPRODUKTE

# Purging compounds target downtime

*Growing use of high temperature and costly resins and additives is driving demand for effective purging compounds that can cut waste and downtime.* ***Mark Holmes*** *learns more*

**This is an ecxerpt from the original article, prepared by VOELPKER®.**
**Source: www.compoundingworld.com (September 2021).**


The monthly global magazine for polymer compounders and masterbatch producers. Covering plastics, additives and compounding technology and market trends.

**Inside our new edition:**

- Bioplastics
  Pigments
- Purging and cleaning
- Stabilisers and antioxidants
- Compounding World Expo

**plus:**

- Industry news


**Trials carried out at Germany's Kunststoff-Zentrum Leipzig compared performance of Völpker's Cevo-clean J-1819 against a commercially-available competitor in a coloured transparent PMMA application. Figure 1 (upper image) compares the two purging compounds against cleaning with no purging agent; Figure 2 (lower image) shows injection moulded plaques produced on the first and 26th shots after the two purging compound cleans**
***Source: Völpker/Kunststoff-Zentrum Leipzig***

## Simplified solutions

There are many purging and cleaning products on the market that act through different mechanisms and sometimes require complex handling steps and/or the use of high volumes of material, according to **Völpker Spezialprodukte** (best known as a producer of process waxes). "For example, there are products on the market that have a cleaning effect via chemical reactions," says Dr Lutz Matthies, Head of Business Development. "We see disadvantages in this approach because of the relatively high effort required in terms of handling and time needed with respect to the effect achieved. The user wants a good, cost-effective material that can be used for the majority of cleaning tasks with minimal expenditure of time and material. We have used this as a guide for the development of our new product."

The company recently moved into the purging compound sector with its Cevo-clean J-1819 purging concentrate. "As a long-established wax producer, Völpker has significantly expanded its plastics additives business in recent years," says Matthies. "Due to their unique properties, Völpker wax additives are used as multi-functional high-performance additives in the plastics industry, as well as recycling. They serve, among other things, as viscosity-regulating combination lubricants and dispersion aids, especially if special quality requirements have to be met."

With a customer base of plastics processors, compounders and masterbatch manufacturers,

mainly in the engineering plastics sector, he says the company has now taken the step of adding a new product range to the montan waxes. "With the Cevo portfolio, we offer ready-to-use additive formulations with components that create synergistic effects, providing complete solutions designed for specific polymers. They can also be specifically tailored to individual customer needs. The majority of Cevo developments are wax additives that can solve specific processing problems in the engineering plastics area. However, recently this has also included a purging concentrate."

According to Völpker, Cevo-clean J-1819 is a highly efficient cleaning concentrate for thorough and user-friendly cleaning of extruders. It combines a chemical-physical mode of action which uses solid solvents and non-abrasive minerals that have been optimally-selected to work with each other. It is said to remove stubborn deposits, burns and material residues of all commonly used thermoplastics. Barrels and screws are subjected to gentle mechanical cleaning, including the dead zones of machines, and the compound can be used up to 360°C, depending on the carrier polymer.

The company says Cevo-clean J-1819 is a 'one-for-all' concentrate suitable for nearly all commonly used thermoplastics, which makes it particularly cost-effective. In use, it is always diluted with the polymer to be used next, which is said to enable materials and colours to be changed quickly and resulting in less downtime and lower reject costs. Where contamination levels are low, the cleaning extrudate can be granulated and reused.

Cevo-clean J-1819 is used as a dry blend of 20-25 parts concentrate to 75-80 parts of unfilled polymer. The mixture is processed on the extruder using the normal processing parameters of the polymer used and ,after cleaning and rinsing, new production can begin immediately.

## Transparent results

Test carried out at the Kunststoff-Zentrum in Leipzig, Germany, demonstrate that Cevo-clean J-1819 is particularly good for effective purging in demanding applications, such as transparent materials. These were conducted with PMMA including an intense blue masterbatch at a 2% addition level. The extruder mixing the compound and masterbatch and the injection moulding machine were then both cleaned using Cevo-clean J-1819 diluted in a ratio of 1:4 with colourless PMMA material. The cleaning performance of the Völpker solution was compared with a commercially available cleaning concentrate used undiluted. The cleaning effect was determined by analysis of thin injection moulded plates.

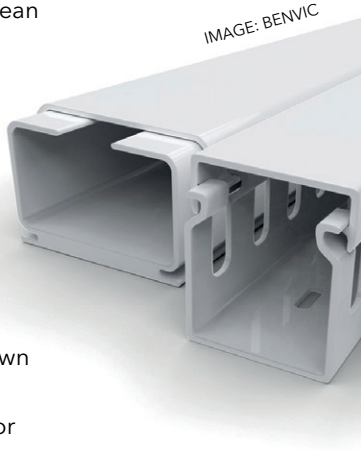
IMAGE: BENVIC

The quality of the extruded polymer without purging agent, with the competitor cleaning concentrate, and with Cevo-clean J-1819 is shown in Figure 1. Injection moulded plates produced from the first and 26$^{th}$ shots using the competitor purging compound and Cevo-clean J-1819 are shown in Figure 2. Völpker says that a bluish cast was evident in plates 1-26 using the competitor product, with the first plate also showing contamination residues and pigment residues on the sprue. Using Cevo-clean J-1819, the plates were colourless from the first cycle with only pigment traces at the tip of the sprue.

A further test carried out using the competitive product after cleaning only with 1.5kg of colourless PMMA showed a bluish tint and significant pigment residues on the entire sprue. After 60 shots, there was still no sufficient cleaning effect.