Mild Alternative for Highly Alkaline Cleaners

Heavily soiled parts are usually cleaned with highly alkaline and surfactant-rich media. A milder alternative with a nearly identical cleaning effect was now developed. It also counteracts heavy foaming.

Under most conditions, contaminants such as graphite-oil mixtures, wax-like preservatives, and forming lubricants are impossible or difficult to remove with mildly alkaline or neutral cleaners. It usually takes highly alkaline and surfactant-rich media to get the job done. But highly alkaline, caustic products should be avoided due to occupational safety, as the employees responsible for the cleaning systems usually come into direct contact with the cleaning agents. So in order to get the same cleaning effect, it often takes complex and expensive plant engineering. Moreover, the use of highly alkaline cleaners in spray systems in combination with corrosion protection products, emulsifiers, or greases often leads to heavy foaming.

New cleaner solves the problem

For these types of tasks, Chemische Werke Kluthe developed HAKUPUR 850, a mild alternative, which has nearly the same cleaning effect as highly alkaline systems and which can be used at temperatures below 40 °C. This closes the gap between neutral cleaners for light contamination and

The mild alternative achieves almost the same cleaning effect as highly alkaline systems, it can be used at temperatures below 40 °C, and it offers good corrosion protection.

highly alkaline systems for heavy contamination.
In addition, the surfactant combination of the cleaner was selected to counteract foam formation, even under unfavorable conditions. This means that, in situations where defoamers are used on top of common, highly alkaline cleaners, HAKUPUR 850 also renders the second component irrelevant. In most cases, this reduces the use of chemicals in the production company as well as production downtime due to foaming.

Also better in terms of quality

Another advantage compared to highly alkaline systems is the significant reduction in staining on cleaned parts. This is an obvious quality issue that is becoming increasingly important. The cleaner can be used with different metals, which means it is also optimally suited for use on a wide mix of materials. In tough continuous use, the parts cleaner leaves behind significantly fewer deposits in the system compared with conventional products. This reduces the costs for maintenance. The medium is also very good at separating any introduced oil. The oil is simply separated with an oil skimmer, which extends the bath time.

Tried and tested in the real world

An international manufacturer of fasteners, such as screws, nuts, and other DIN and standard parts, must clean several thousands of screws a week, which are contaminated with cooling lubricant in the upstream process. The responsible plant manager approached the application engineers of the cleaning agent manufacturer with the following task: A drum washing system with three zones regularly experienced significant foaming issues, organic and inorganic deposits, as well as fungal and bacterial infestations. The latter significantly reduced the service life down to two months. Two products from other manufacturers had already been tested but yielded unacceptable results.
The parts cleaner had to meet the following requirements: very biostable, with foam dampening, strong demulsifying effect, and phosphate-free. After the processes were analyzed together with the customer, Chemische Werke Kluthe GmbH was able to present the new cleaner as a solution. Compared to the products used previously, it has excellent cleaning and degreasing properties.

In plant operation at a concentration of 2–3% (depending on the zone) and a temperature of 60 °C, consumption could be significantly reduced while saving wetting agent at the same time. The strong demulsifying action resulted in efficient separation of tramp oil. Other highlights are good corrosion protection and surfaces that can be painted over. Since 2017, HAKUPUR 850 has been used successfully and has proven reliable in three cleaning plants at the factory. All existing washing systems have been filled with the medium since 2020. Training for plant operators on bath maintenance and control can further increase process stability. //

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