Publication

Destruction of perfluorooctane sulfonic acid (PFOS) in gas sparging incorporated UV-indole reductive treatment system — benefits and challenges

In a recent article for the *Journal of Hazardous Materials*, Haley & Aldrich's Yida Fang and his co-authors evaluate a technology for removing per- and polyfluoroalkyl substances (PFAS) that integrates nitrogen gas sparging with an ultraviolet (UV) reductive system, providing insights that can improve the design of similar PFAS treatment technologies.-

Yida, alongside Julie Devon and Charles Schaefer of CDM Smith, and Dandan Rao and Jinyong Liu of the University of California, Riverside, probe the efficiency of treatment that combines nitrogen (N_2) sparging with a UV system, which has already been shown to be effective for destroying PFAS. They write that their results "illustrated that N_2 sparging within UV systems can enhance the degradation and defluorination of PFOS compared to non-sparged conditions, but their overall treatment efficiency is low to industry standard." The authors argue that the likely cause of this lower efficiency is "the insufficient accumulation of electron sources at the gas-water interface and their low water solubility level."-

Ultimately, Yida and his coauthors note that there are trade-offs to a PFAS treatment approach of this nature; it may use less energy to reduce PFAS, but in this iteration proved less effective.–

Read the full article, "Destruction of Perfluorooctane Sulfonic Acid (PFOS) in Gas Sparging Incorporated UV-Indole Reductive Treatment System — Benefits and Challenges."–