



NASF/AESF Foundation Research Reports

Project R-120 (Q7)



Electrochemical Destruction of Perfluorooctanesulfonate in Electroplating Wastewaters

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Summary

Experiments were conducted to investigate 6:2 FTS oxidation, as this is a common replacement compound for PFOS in the electroplating industry. Experiments showed that 6:2 FTS was oxidized up to 77% in a single pass through the Ti_4O_7 reactive electrochemical membrane (REM), with a residence time of only 11 s. In addition, an electroplating wastewater sample that contains PFAS was obtained from an industrial partner. This solution will be tested for electrochemical oxidation of PFAS in the next project quarter. A new student was hired to work on this project and started on January 18, 2022.

About the author



Dr. Brian P. Chaplin is Associate Professor in the Department of Chemical Engineering, at the University of Illinois at Chicago. He holds a B. Civil Engineering (1999) and an M.S. (2003) in Civil Engineering from the University of Minnesota and a Ph.D. in Environmental Engineering (2007) from the University of Illinois at Urbana-Champaign.

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