

Adsorption and Desorption of Emerging Water Contaminants on Activated Carbon Fabrics

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Abstract : Nowadays, a wide variety of organic contaminants are present at trace concentrations in wastewater effluents. In order to face these pollution problems, the implementation of the REACH European regulation has defined lists of targeted pollutants to be eliminated selectively in water. It therefore implies the development of innovative and more efficient remediation techniques. In this sense, adsorption processes can be successfully used to achieve the removal of organic compounds in waste water treatment processes, especially at low pollutant concentration. Especially, activated carbons possessing a highly developed porosity demonstrate high adsorption capacities. More specifically, carbon cloths show high adsorption rates, an easily handling, a good mechanical integrity and regeneration potentialities. When loaded with pollutants, these materials can be indeed regenerated using an electrochemical polarization.

Keywords : nanoporous carbons, activated carbon cloths, adsorption, micropollutants, emerging contaminants, regeneration, electrochemistry

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