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Treatment of model wastewater by electrocoagulation – sludge analysis

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This paper presents the results of research of aggregates obtained from pulp and paper wastewater treatment using the electrocoagulation method. The test was conducted on the laboratory scale on model wastewater in the recirculation system, using aluminium electrodes. Wastewater parameters were analysed: pH, chemical oxygen demand (COD), turbidity and colour. The fractal dimension of the obtained aggregates were determined and their size was specified. At this process, the fractal dimensions fell within the range of 1.35–1.72 at the applied current 0.05-0.1A. The applied current and electric charge flowing through the solution determined the efficiency of model wastewater treatment, and determined the aggregates' structure, size and fractal dimensions D of post-coagulation sludge. The paper presents an evaluation of electrocoagulation as a method for treating model wastewater whose composition resembles that of natural pulp and paper mill effluents.

Biography

Beata Załęska-Chróst has completed his PhD from University of Warmia and Mazury in Olsztyn, Poland. She is working at the same university. She has published more than 25 papers in international journals, conference papers and national publications. Her expertise areas are waste water treatment, electrocoagulation, and fractal dimension of sludge aggregates..

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