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APPLICATION OF THE FLOCCULATION PROCESS IN THE INDUSTRIAL WASTEWATER TREATMENT

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Abstract

The flocculation process is applied in wastewater treatment to separate the destabilized colloid particles (or the particles formed during the coagulation phase) by forming flocs. The scope of this research was to identify the predictability of the synthetic organic flocculants use for industrial wastewater treatment. The research was performed at small scale, in laboratory, but also at industrial scale, by applying the synthetic organic flocculants in a real industrial wastewater treatment process. Research has revealed that an important role in the flocculation process is played by the electrical character of flocculants and described how it interacts with the type of analyzed wastewater. It was revealed that the flocculation efficiency mainly depends on the polymer macromolecule, the number of colloidal particles in suspension. For the analyzed wastewater, more that 95 % reduction for TSS and 87% for COD were obtained.

Key words: flocculation process, organic flocculants, wastewater treatment

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