

عنوان مقاله:

Optimization of flocculation coagulation process for wastewater treatment plant of a pulp and paper mill

محل انتشار:

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خلاصه مقاله:

Pulp and paper industries are ranked sixth among the world's most hazardous industries. The most critical pollutant in these effluents is high COD. It is essential to treat this wastewater before it enters the environment since it causes environmental problems if it enters the receiving waters. The quality of pulp from cardboard waste depends on how well it is separated at the source; therefore, the quality of the wastewater contaminants differs across different countries. We conducted this study for pulp and paper wastewater treatment in Iran. This study used poly aluminum chloride and alum as coagulants and cationic and anionic polymers as flocculants at different pHs. The wastewater used was real wastewater with an initial COD and turbidity of 4350 ± 30 ppm and 8.0 ± 0.5 NTU. The parameters of COD, turbidity and sludge volume index were evaluated as comparison criteria. It was observed that the use of $750-1250$ ppm Alum as a coagulant and cationic flocculant at the pH of 7.8 is the best choice for pulp and paper wastewater treatment. It is suggested that future research will focus on the biological treatment of pulp and paper mill wastewater in Iran.

کلمات کلیدی:

Pulp and Paper Mill, Wastewater Treatment, Chemical Treatment, Coagulation and Flocculation

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