Humic Acid Removal by Chemical Coagulation Process

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ABSTRACT

The aqueous solution containing humic acid in the presence of kaolin was prepared for the study of chemical coagulation process. Alum(Al2(SO4)3．18H2O), PAC(polyaluminumchloride), chitosan, and polyDADMAC(polydiallyldimethylammonium chloride)were used as coagulants. Based on the results of this study, the following can be concluded. (1)Under the same concentration of kaolin in the aqueous solution, the dosage for the turbidity removal become higher in the presence of humic acid；(2)In comparison with Alum, the optimum dosage to removal humic acid is lower and the removal efficiency is better for PAC than Alum ；(3)As the concentration of kaolin increases, the optimum dosage of chitosan does not increase accordingly in the aqueous solution of kaolin and humic acid mixture；(4)Cationic polyelectrolytes or chitosan in combination with PAC can remove humic acid efficiently；(5)The optimum dosage for cationic polyelectrolyte is predominated by the concentration of humic acid in the aqueous solution of kaolin and humic acid mixture.

Keywords : coagulation ; chitosan ; polyDADMAC ; coagulants ; humic acid

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