



Coagulation-Flocculation Treatment of a Tropical Surface Water with Alum for Dissolved Organic Matter (DOM) Removal: Influence of Alum Dose and pH Adjustment

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Abstract: Effective removal of turbidity and soluble dissolved organic matter (DOM) from the Agbo reservoir water was investigated, since DOM can lead to the formation of potential carcinogens compounds during water disinfection. An enhanced coagulation with alum was then conducted by standard jar test to optimize coagulation pH and alum dose. Optimum removal of turbidity (98%) and dissolved organic carbon (DOC) (70%) was achieved for 100 mg alum L⁻¹ at pH 5. Alum dose and pH control of coagulation were found to be important factors governing DOM removal. It was also showed that humic substances are rather more removed by alum than the other DOC compounds.

Keywords: alum; coagulation; DOM; Turbidity; removal.

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