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Coagulation Flocculation Test of Keddara's Water Dam Using Chitosan and Sulfate Aluminium Original

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ABSTRACT:

Chitosan is a natural polymer prepared from crab, shrimp and lobster shells. It has been used as coagulant in water treatment to avoid the human health problems caused by the residual aluminum and chemical polymers in water. In this study, the raw water from Keddara dam characterized by low turbidity was treated using chitosan as primary flocculant and as coagulant aid with aluminum sulfate. The result shows that chitosan was not too efficient as alum, if it is used as primary coagulant for treating Keddara raw water. However, when chitosan was applied as coagulation aid agent with aluminum sulfate, highest turbidity removal (97 %) was carried out with 0.2 mgl -1of chitosan after 45 minutes of settling time. The organic carbon contribution on the coagulation flocculation performance is negligible because chitosan is used in small doses. Hence, chitosan could be used as natural coagulant aid for drinking water treatment with lowest risks of organic release.