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Flocculation of Kaolinite Suspensions in Water by Coconut Cream Casein

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ABSTRACT

The flocculation of kaolinite colloidal particles was carried out at pH = 6 in suspension of initial turbidity varying between 24 NTU and 102 NTU by a casein extracted from *Cocos nucifera* cream. During Jar-test essays, 90% to 99% of colloids were eliminated in the sediments. The optimal doses of casein used depend on the initial colloids concentrations of the suspension and were found to be 60 mg/L and 100 mg/L respectively for suspensions having turbidity of 24 NTU and 102 NTU. The corresponding residual turbidity are respectively 2.80 NTU and 10.22 NTU for clarified water. The structural analysis of the freeze-dried sediments by FTIR shows sharp adsorption bands at 1558 cm⁻¹ and 1653 cm⁻¹, indicating the presence of casein in the sediment. The flocculation process between the particles of kaolinite and the coconut casein is adsorption and bridging.

KEYWORDS

Flocculation, Coconut, Casein, Kaolinite, Turbidity

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