



International Journal of ChemTechResearch CODEN(USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555 Vol.10 No.2,pp1037-1043,2017

Comparison of the Sludge Volume Index (SVI) between a natural coagulant and aluminum sulfate

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Abstract:This study evaluated the sedimentation behavior of the residual sludge produced in the raw water treatment using Aluminum Sulfate and saline extract of *MoringaOleifera* seed at laboratory scale. The conventional parameter was measured to evaluate the sedimentability of sludge: The Sludge Volume Index (SVI). A completely randomized design with factorial structure was made, taking into account the factor 'Turbidity' of water. The results were analyzed using tables of varianceanalysis. For this study, raw water was collected from the Sinu River in the Mocari neighborhood from Monteria, Colombia, with turbidity levels of 150 NTU, 265 NTU, and 408 NTU. It was evidenced that the sedimentability of the sludge does not differ significantly when the *MoringaOleifera* extract or the Aluminum Sulfate areapplied as coagulants. The greater turbidity in the water, the greater the index volume of sludge, regardless of the coagulant used. The coagulants show excellent sedimentation capacity, since the value of the SVI is in the characteristic range.

Key Words: Raw water, coagulants, SVI, sedimentability, residual sludge.

Jhon Jairo Feria-Díaz et al/International Journal of ChemTechResearch, 2017,10(2): 1037-1043.
