Comparative removal of suspended solids from landfill leachate by *Hibiscus rosa-sinensis* leaf extract and alum

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**ABSTRACT**

*Hibiscus rosa-sinensis* is a biodegradable material that has not yet been tested for its flocculating properties. The objective of this study was to examine the efficiency of coagulation–flocculation processes for the removal of suspended solids (SS) from landfill leachate using aluminium sulphate (alum) and *Hibiscus rosa-sinensis* leaves extract at different pH and dosages. The experiments confirmed the positive coagulation properties of the investigated natural coagulant. The extracts from *Hibiscus rosa-sinensis* leaves had an isoelectric point at pH 4 and acted as a bridging mechanism in removing 74% of SS (8,000 mg/L dosage at pH 6) which was comparable with 78% SS removal using 7,000 mg/L alum (at pH 6).

**Keywords:** Alum; Coagulation and flocculation; *Hibiscus rosa-sinensis*; Leachate treatment

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