

# REMOVAL OF HEXAVALENT CHROMIUM FROM AQUEOUS SOLUTION BY USING SARACA ASOCA LEAVES AS BIOSORBENT

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## ABSTRACT

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Studies for chromium (VI) adsorption on *Saraca asoca* tree leaf has been conducted under several factors. Various parameter likes pH and contact time, initial concentration of the metals affects the adsorption of Cr(VI). From the outcomes, finding has been made that the adsorption capacity of the biosorbent will decrease at the pH increase. The optimum conditions for maximum adsorption to occur are achieved by providing an acidic condition (pH 1), 10 mg/L for the initial concentration of the metals with 15 contact time under agitation speed of 200 rpm. Percentage of heavy metal ions removal was obtained as (99.78%). Metal uptake (q) was obtained as [(1.93 mg/g). Freundlich isotherm modeling had been used to further analyze the results. The correlation coefficient ( $R^2$ ) was obtained at 0.8055, with  $K_f$  (metal loading at lower equilibrium concentration) obtained as 1.3407 mg/g and n (adsorption intensity) obtained as 0.340.

Key words: Leaf of *Saraca asoca*, Biosorbent, Adsorption, Cr(VI) ions, Metal uptake