

## **Mulberry Leave: An Efficient and Economical Adsorbent for Remediation of Arsenic (V) and Arsenic (III) Contaminated Water**

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**Abstract :** The aim of present study was to investigate the efficiency of mulberry leaves for the removal of both arsenic (III) and arsenic (V) from aqueous medium. Batch equilibrium studies were carried out to optimize various parameters such as pH of metal ion solution, volume of sorbate, sorbent doze, and agitation speed and agitation time. Maximum sorption efficiency of mulberry leaves for As (III) and As (V) at optimum conditions were 2818  $\mu\text{g.g}^{-1}$  and 4930  $\mu\text{g.g}^{-1}$ , respectively. The experimental data was a good fit to Freundlich and D-R adsorption isotherm. Energy of adsorption was found to be in the range of 3-6 KJ/mole suggesting the physical nature of process. Kinetic data followed the first order rate, Morris-Weber equations. Developed method was applied to remove arsenic from real water samples.

**Keywords :** arsenic removal, mulberry, adsorption isotherms, kinetics of adsorption

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