

# **Biosorption of hexavalent chromium using pomegranate peel from aqueous solution**

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## **Abstract**

Biosorption is one of the effective techniques for chromium (VI) removal from waste water. The present work deals with the determination of Cr(VI) removal capacity from aqueous solution using pomegranate peel which is a low cost adsorbent. The effect of various parameters such as initial Cr(VI) concentration (100 - 300 ppm), pH (2 – 6), adsorbent amount (1 – 2 gm) and contact time (1-2 hr) for the adsorption of Cr(VI) on pomegranate peel is investigated. The maximum adsorption of Cr(VI) on tamarind seeds is obtained at pH 2. The experimental equilibrium adsorption data are tested for the Langmuir, Freundlich and Temkin equations. The Langmuir isotherm model is found to be most suitable for the Cr(VI) adsorption using pomegranate peel and also confirms the monolayer adsorption of Cr(VI) onto the adsorbent surface. The maximum adsorption capacity obtained using the Langmuir isotherm model is 28.64 mg/g at pH 2.

**Keywords :** *Biosorption, Langmuir and Chromium(VI).*