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Comparative Study of Adsorptive Removal of Red, Green and Violet Fabric Dyes from Water bodies Using Pomegranate peel

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ABSTRACT

The use of cheap and eco-friendly adsorbents studied as an alternative substitution of activated carbon for removal of a fabric dyes (red, green and violet) from waste water. Adsorbent prepared from pomegranate peel which is domestic waste, successfully used to remove the dye from waste water in a batch wise column. This study investigates the potential use of pomegranate peel pre-treated with nominal treatment method, for removal of dyes from simulated wastewater. Treated pomegranate peel used to adsorb dyes at varying adsorbent pH, contact time and dosages. The adsorption capacity of activated carbon prepared from pomegranate peel decreased in the order of red > green > violet. The sorption data were then correlated with Langmuir and Frenudlich isotherm models.

Keywords: Adsorption, Dyes, pH, Activated carbon, Isotherm.
