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Abstract: The effect of temperature on the equilibrium adsorption of Methylene Blue dye from aqueous solution using rectorite was investigated The equilibrium adsorption data were analyzed using three widely applied isotherms, Langmuir, Freundlich, and Redlich-Peterson isotherm A nonlinear method was used for comparing the best fitting of the isotherms Best fits were found to be Redlich-Peterson isotherm Thermodynamic parameters, such as ∆*G*°, ∆*H*°, and ∆*S*°, were calculated using adsorption equilibrium constant obtained from the Langmuir isotherm Results suggested that the Methylene Blue adsorption on rectorite was a spontaneous and endothermic process.

Author Keywords: sorption; Methylene Blue; trial and error method rectorite; thermodynamic parameters

Keywords Plus: Adsorbed Solution Theory; Aqueous-Solution; Sorption Isotherm; Activated Carbon; Basic Dye; Removal; Kinetics; Biosorption; Mechanism; Water

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