



Kinetic and Isotherm Non-Linear Study of Cr(VI) Sorption onto Amino-Modified Macroporousgma Based Copolymer

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Hexavalent chromium, Cr(VI), is one of the most notorious pollutants with health and environmental impacts due to carcinogenic, teratogenic, and mutagenic effects on the human organism.¹ Therefore, treating wastewater containing Cr(VI) before discharge into the aquatic system is extremely necessary. In this study, the nonlinear regression method was used to determine the kinetic and isotherm parameters for Cr(VI) sorption from aqueous solution on hexamethylene diamine-modified macroporous copolymer based on glycidyl methacrylate (PGE-HMD).² The Avrami kinetic model provides the best correlation of the experimental data with $R^2 = 0.994$ and $\chi^2 = 0.004$, while the Freundlich isotherm model best described the Cr(VI) sorption onto PGE-HMD copolymer indicating a heterogenous sorption process.

Keywords: glycidyl methacrylate, hexamethylene diamine, Cr(VI), kinetics, isotherms.

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References

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