















and 6.37mg/g respectively. The resulting adsorbent can easily be separated from the pollutant by magnetic separation. The adsorption models for DMOS<sub>biocomp</sub>, DMOSFeNP<sub>salt</sub> and DMOSFeNP<sub>H<sub>2</sub>O</sub> followed Freundlich, and Langmuir adsorption models respectively. These adsorption isotherm models indicates that the adsorption process occurs in a monolayer and multilayer heterogeneous surface respectively. The kinetic models for DMOS<sub>biocomp</sub>, and DMOSFeNP<sub>salt</sub> followed second order reaction kinetic however, DMOSFeNP<sub>H<sub>2</sub>O</sub> followed first order kinetics. The first order kinetics and second order kinetics shows the reaction of Cr (VI) on the magnetite bionanocomposites is physisorption and chemisorption respectively. This shows that adsorption of Cr (VI) takes place via surface exchange reaction mechanisms until all the sites are occupied. Therefore, Moringa seed extracts can be used to support magnetite bionanocomposites for Cr (VI) adsorption. Other potential future research is to synthesis a Moringa oleifera nano magnetic composite, which works on wider pH range.

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