The presence of heavy metals in the environmental areas is an issue of great concern due to growing discharged toxicity, other adverse effect of heavy metals on the receiving water. The high concentration of heavy metals must be decreased to acceptable levels prior to discharging them into the environment. The conventional methods can be used to treat these kinds of pollutions from aqueous solutions. Most of these methods are ineffective, the high cost, generation of secondary pollution and ineffectiveness for low metal concentrations. For this purpose, adsorption can be used for the removal of the heavy metals pollution. In this study, natural bentonite was modified with 8-hydroxy quinoline and then it was used for the removal of cadmium(II) ions from the aqueous solutions. The pH experiments were carried out at 100 mg dm$^{-3}$ and 20$^\circ$C. The maximum adsorption capacity obtained from pH experiments was found as 54.00 mg g$^{-1}$ at pH=5.5. Langmuir, Freundlich and Dubinin-Radushkevich (D-R) isotherm models were applied to the experimental data. This research clearly suggests that 8-hydroxy quinoline modified bentonite acts a well respective adsorbent for the removal of the pollutant of cadmium(II) ions from aqueous solutions.