

Adsorption of malachite green using NPP-modified bentonite in synthetic medium and textile wastewater

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SUMMARY : Adsorption of malachite green (MG) using sodium pyrophosphate modified bentonite (NPP-bentonite) in synthetic medium and textile wastewater was investigated in batch method. The effect of pH, adsorbent dose, contact time and initial dye concentration on MG adsorption was studied. XRF technique was employed for composition study of NPP-bentonite. The adsorption equilibrium was attained at 60 min and adsorption efficiency reached maximum of 94.90 % at pH 7.0 with adsorbent dose of 1 g/L and initial dye concentration of 50 mg/L. The equilibrium data showed good fitting for Langmuir isotherm model. The result showed applicability of NPP-bentonite as an effective low cost adsorbent for adsorption of MG from textile wastewater.

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