

عنوان مقاله:

Adsorption of 4-Chloro-2-methylphenoxy Acetic Acid (MCPA) from Aqueous Solution onto Cu-Fe-NO₃ Layered Double Hydroxide Nanoparticles

محل انتشار:

سومین کنفرانس علوم و فناوری های شیمی کاربردی: شیمی زمین و شیمی محیط زیست (سال: 1399)

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خلاصه مقاله:

The nanoparticles of Cu-Fe-NO₃ layered double hydroxide (LDH) were prepared with Cu/Fe molar ratio of 2:1 by a thermal process and co-precipitation method at pH 9 and were characterized by X-ray powder diffraction (XRPD), thermal gravimetric analysis (TGA), atomic adsorption spectroscopy (AAS) and fourier infrared spectroscopy (FT-IR). The size and morphology of nanoparticles were examined by transmission electron microscopy (TEM). Cu-Fe-NO₃-LDH was studied as a potential adsorbent of the acid herbicide MCPA [(4-chloro-2-methylphenoxy) acetic acid] as function of pH, contact time and temperature. The results showed high and rapid adsorption of MCPA on the LDH. The characterization of the adsorption products by XRD indicates that the intercalation of MCPA between the LDH layers has not occurred and surface adsorption has happened.

کلمات کلیدی:

Adsorption, Layered compounds, MCPA, Nanoparticles

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