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AMMONIUM ADSORPTION ON OXIDIZED EXFOLIATED GRAPHITE NANOPATELETS

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Abstract

Ammonium is an environmental contaminant encountered in water and soils, its admissible concentrations in soils and waters being established by legislation. Removal of ammonium ions from aqueous solutions from different matrix can be done with several sorbents, among which nano-adsorbents, such as oxidized exfoliated graphite nanoplatelets (ox-xGnP) offer practical solutions, based on their high specific surface area, associated sorption sites and efficiency of application. Several parameters such as pH, temperature and contact time was studied and kinetic and isotherm models were validated to understand the mechanism of adsorption of ammonium by ox-xGnP. The obtained results demonstrated that exfoliated graphite nanoplatelets could be employed as an effective adsorbent for ammonium.

Key words: adsorption, ammonium, oxidized exfoliated graphite nanoplatelets

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