

# Removal of Lead (II) from Aqueous Solution by Banana Peel Adsorbent

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## Abstract

In this study, the banana peel was used as a waste adsorbent for the removal of lead (II) ion from aqueous solution. In the research work, the raw banana peel powder (RBP) and heat activated banana peel powder (HBP) were prepared for adsorption study. Some physicochemical properties of banana peel powder samples were determined by the standard method. Both samples were also characterized by using SEM and FT-IR analysis before adsorption. The adsorption capacity of banana peel was determined as a function of pH, contact time and dosage of adsorbent. The maximum removal percent of RBP was found to be 86.16 % at 100 mg L<sup>-1</sup> of initial concentration, pH 6, 60 min of contact time and 1.0 g of dosage whereas the maximum removal percent of HBP was found to be 90.34 %. Therefore, both RBP and HBP are a good adsorbent for removal of Pb<sup>2+</sup> ion from aqueous solution.

**Keywords:** adsorbent, adsorption, banana peel, removal percent

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