ABSTRACT

ANALYSIS OF METAL ADSORPTION CAPACITY ON BINARY Pb/Cd SYSTEM USING BANANA KINDS ADSORBENT

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(Initial Metal Concentration 80,100, and 125 ppm)

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It's very rare for wastewater to have ions of only one kind of metal ion. Therefore, ther removal of copper and lead ions from aquaeous solutions in a single and binary system can use the Kepok banana peel. Adsorpsion is an alternative method for removing heavy metals from water which is most sought after because it's more flexible, efficient, and relatively more cost-effective. The purpose of this study was to determine the highest metal adsorption capacity in the Pb/Cd binary syterm using Kepok banana peel as an adsorbent based on variations in initial metal concentrations of 80,100, and 125 ppm. This research was conducted using variations in the initial metal concentration. To determine the initial content and residual metal that is not adsorbed to be analyzed using an Atomic Adsorption Spectrophotometer (AAS). The result obtained from this study were the higher the initial concentration of Pb/Cd metal used, the higher the adsorption of Kepok banana peels. Where the results on Pb metal showed the highest adsorption capacity of 4,98 % with an initial concentration of 125 ppm metal, while on Cd metal showed the highest adsorption capacity of 3,168 % with the same initial metal concentration of 125 ppm.

***Keywords*:** Kepok Banana Peel, Lead (Pb), Cadmium(Cd), Binary System, Adsorption, Atomic Adsorption Spectrophotometry (AAS)