

## ***ABSTRACT***

### **ANALYSIS OF METAL ADSORPTION CAPACITY IN BINARY Pb/Cd SYSTEM USING KEPOK BANANA PEEL ADSORBENT (*Musa paradisiaca* L.)**

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In addition to organic waste in the community caused by various sources of waste such as banana peels, various pollution also occur due to industrial waste. Some industries do not have proper waste management, one example is heavy metal waste, where there are still many who throw heavy metal waste into the aquatic environment and cause pollution. Thus, this research was conducted by utilizing kapok banana peel waste to adsorb heavy metals Pb/Cd. The purpose of this study was to determine the highest metal adsorption capacity in the Pb/Cd binary system using the kapok banana peel as an adsorbent with initial metal concentration of 25, 50, and 60 ppm. The metal solution that has been mixed with Kepok banana peel powder is stirred using a magnetic stirrer at a speed of 250 rpm for 60 minutes, then the mixture is adjusted to pH 5 and the filtrate is separated and then diluted 3 times each. From these results, it can be stated that the higher the concentration, the higher the adsorption capacity was achieved at a concentration of 60 ppm with an adsorption capacity of 24,590 and 22,802 mg/g for Pb and Cd respectively.

Keyword : Adsorption, Lead (Pb), Cadmium (Cd), Kepok banana peel.