

## **ABSTRACT**

### **ANALYSIS OF THE PERCENT OF METAL ADSORPTION IN THE Pb/Cd BINARY SYSTEM USING KEPOK BANANA PEEL ADSORBENTS (*Musa Paradisiaca* L.) (Contact Time 15, 20, and 45 Minutes)**

**Fiqi Syaifudin**

At the present, technological and industrial developments cause waste pollution that can cause air pollution, one of which is Pb/Cd pollution. The negative effect that causes heavy metal pollution in the Pb/Cd binary system results in disruption of the air ecosystem and human health. Biosorbent is a metal ion adsorbent that comes from nature which is used as an alternative to reduce or remove metal ions. Contact time is one of the requirements needed to determine the adsorption process required by the adsorbent to absorb metal optimally. Each type of adsorbent has a different time for maximum adsorption. Therefore, this study aims to determine the utilization of kepok banana peel waste as a heavy metal biosorbent in the Pb/Cd binary system using various contact times of 15, 20, and 45 minutes. The percentage of lead (Pb) metal ion adsorption reached the highest value at the 45 minute contact time variation of 98.833% while the cadmium metal ion (Cd) adsorption at the 45 minute contact time variation was 98.302%. From the results of this study, it can be said that the kepok banana peel biosorbent is able to reduce heavy metal contamination in the Pb/Cd binary system..

**Keywords:** Biosorption, Kepok Banana Peel, Pb/Cd Binary System, Contact Time.