

## **ABSTRACT**

### **BIOSORPTION OF HEAVY METALS LEAD (Pb) USING KEPOK BANANA PEEL (*Musa paradisiaca* L.) ACTIVATED HCl WITH VARIATIONS OF CONTACT TIME**

**Satrio Budi**

At present, the rapid development of technology and industry causes an increase in the production of waste that can cause environmental pollution of water, one of which is polluted by heavy metal lead (Pb). The negative effect caused by heavy metal contamination of lead (Pb) causes disruption of water ecosystems 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 conditions needed to determine the length of the adsorption process required by the adsorbent to maximally adsorb metals. Each type of adsorbent has a different time for maximum adsorption. Therefore, this study aims to determine the utilization of Kepok banana peel waste activated by 0.1 M HCl as a biosorbent for heavy metal lead (Pb) by using variations in contact time at 10, 20, 30, 40, and 50 minutes. Percentage of metal ion adsorption of lead (Pb) reached the highest value at the contact time variation of 40 minutes of 98.5597%. From the results of this study it can be said that the Kepok banana peel biosorbent is able to reduce lead (Pb) metal ion contamination.

Keywords: Biosorption, Kepok Banana Peel, Lead, Contact Time.