

## **Heavy metal Cu(ii) and Pb(ii) retention on clay soil**

### **ABSTRACT**

Heavy metals are chemically undegraded in soil, continuous inputs from anthropogenic activities results in exceeding the limits of soil capacity in retaining heavy metals. Further, it affects the retention and the released of heavy metals from the soil. The retention of heavy metals in the soil is closely related to its adsorption in the soil as well as the soil capacity. Therefore, a conventional liquid phase adsorption technique of excess adsorption isotherm measurement technique was used to measure the excess adsorption isotherm. The adsorption isotherm was interpreted by analysis of excess adsorption isotherm with pseudo ideal monolayer adsorption theory. In this work, analysis of adsorption isotherm was based on binary adsorption which is different from most of literature that adsorption isotherm is directly equal to excess adsorption isotherm and reported as single adsorption. The result of the study has revealed that the adsorption isotherm of  $\text{Cu}^{2+}$  and  $\text{Pb}^{2+}$  onto clay soil can be interpreted as monolayer type of adsorption. The obtained pseudo ideal monolayer adsorption capacity of clay toward  $\text{Pb}^{2+}$  was higher than  $\text{Cu}^{2+}$ .