

ADSORPTION OF LEAD AND ZINC IONS FROM AQUEOUS SOLUTIONS BY VOLCANIC ASH SOIL (VAS)

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EXTENDED ABSTRACT

Adsorption of lead and zinc ions from aqueous solutions at $27\pm 1^{\circ}\text{C}$ by natural volcanic ash soil has been studied. The effect of pH, metals concentration, sorbent dosage and contact time were studied in batch experiments. The equilibrium data could be described well by the Langmuir and Freundlich isotherm equations and by the Gile's classification isotherm. The first method is quantitative and second is qualitative descriptive. Results show that the equilibrium is reached quickly (10 min), indicating that the adsorption sites are well exposed. The increased in initial metals ion concentration decreased the percent adsorption and increased the amount of metals uptake per unit weight of the sorbent (mg/g).

Result indicated that the adsorption capacity of the volcanic ash soil increased with an increase in the pH.

The uptake of lead was found to be greater than that zinc.

Key words: Adsorption, Volcanic ash soil, Lead, Zinc