

## **Heavy Metal Retention on Agricultural Soil**

### **ABSTRACT**

It is known fact that heavy metal cannot be degraded chemically and it tends to accumulate and remain in the soil or water that can cause significant effect on environmental. Heavy metal in water may cause on the disturbance of aquatic life and the consumer; similarly, for soil or agricultural soil it may cause the fertility of the plant cultivated on the soil and may cause certain effect on health of the plant consumer. Therefore, it is important to know the ability and capacity of soil or agricultural soil in retaining heavy metals. Hence, in this paper a study on the adsorption of heavy metals on various types of soils to represent major component of agriculture soil is studied. The studies are involved the measurement of excess adsorption of heavy metals on selected soils and interpretation of adsorption isotherm of binary adsorption using commonly available adsorption isotherm theories. The excess adsorption isotherm was measured by conventional liquid phase adsorption measurement technique. The adsorption isotherm was interpreted by analysis of excess adsorption isotherm with monolayer pseudo ideal adsorption theory. In this work is different from most commonly reported adsorption in the literature. Here the adsorption isotherm analyzed based on binary adsorption whereas in most of literature only single adsorption are reported, and also there is no assumption that adsorption isotherm is directly equal to excess adsorption isotherm. The results presented here are excess adsorption isotherm and adsorption isotherm for binary and monolayer adsorption of copper onto clay. Result also shows the adsorption capacity of copper ions on clay.