

**Title: Effect of pH on Zinc Adsorption and Solubility in Suspensions of Different Clays and Soils**

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**Abstract**

Zinc solubility in clay and soil suspensions was controlled by chemi-sorption at pH 4.5 - 7.0. The solubility in clay mineral suspensions was in the order palygorskite < montmorillonite < kaolinite and reflected the high affinity of zinc to palygorskite and the high CEC of montmorillonite. The solubility in soil suspensions was in the order haplustoll < Torrfluvents and reflected the effect of high CEC and organic matter content of the first. The slopes of the pH-pZn curves, calculated zinc potential and sequential desorption data suggested that  $Zn^{++}$ -  $Zn(OH)_2$  aqueous controlled the solubility of zinc in soil and clay mineral suspensions at pH 7.5 - 9.0. The slopes of the pH-pZn curves of two soils were, however, modified by the possible peptization of organic matter and  $Zn(OH)_2$ .