



**SORPTION PROPERTIES OF THE POLYSTYRENE SUPPORTED SCHIFF BASE RESIN, TOWARD
DIVALENT METAL IONS**

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Heavy metals are commonly found in large quantities in industrial wastewaters. For this reason, the recovery of the metal ions present in these wastewaters is necessary for environmental protection and economical reasons. A new polystyrene-supported Schiff base resin, N,N-bis(salicylidene propylenetriamine) - aminomethyl polystyrene, has been synthesized through a reaction between the commercially available 4-chloromethyl polystyrene polymer and the Schiff base, N,N-disalicylidenepropylenetriamine. The chelation behavior of this resin toward the divalent metal ions Cu²⁺, Ni²⁺, Zn²⁺, and Pb²⁺ in aqueous solutions was investigated. Batch equilibration experiments were carried out as a function of contact time, pH, amount of metal-ion, polymer mass, and temperature. The amount of metal-ion uptake of the polymers was determined by using atomic absorption spectrometry (AAS). Results of the study revealed that the resin exhibited higher capacities and a more pronounced adsorption toward Cu²⁺ and that the metal-ion uptake follows the order: Cu²⁺ > Zn²⁺ > Ni²⁺ > Pb²⁺. The adsorption and binding capacity of the resin toward the various metal ions investigated are discussed.