

Optimization of Synergism Extraction of Toxic Metals (Lead, Copper) from Chlorides Solutions with Mixture of Cationic and Solvating Extractants

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Abstract : In recent years, environmental contamination by toxic metals such as Pb, Cu, Ni, Zn ... has become a worldwide crucial problem, particularly in some areas where the population depends on groundwater for drinking daily consumption. Thus, the sources of metal ions come from the metal manufacturing industry, fertilizers, batteries, paints, pigments and so on. Solvent extraction of metal ions has given an important role in the development of metal purification processes such as the synergistic extraction of some divalent cations metals (M^{2+}), the ions metals from various sources. This work consists of a water purification technique that involves the lead and copper systems: Pb^{2+} , H_3O^+ , Cl^- and Cu^{2+} , H_3O^+ , Cl^- for diluted solutions by a mixture of tri-n-octylphosphine oxide (TOPO) or Tri-n-butylphosphate(TBP) and di (2-ethyl hexyl) phosphoric acid (HDEHP) dissolved in kerosene. The study of the fundamental parameters influencing the extraction synergism: cation exchange/extraction solvent have been examined.

Keywords : synergistic extraction, lead, copper, environment

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