

The Effect of Diluents in the Liquid-Liquid Extraction of Cobalt(II) with Di(2-Ethylhexyl) Phosphoric Acid

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Abstract : The solvent extraction of cobalt (II) from sulfate medium using di(2-ethylhexyl) phosphoric acid (D2EHPA, HL) at 25°C has been investigated. The influence of the following parameters was studied: the equilibrium pH, the concentration of the extractant and the nature of diluent. The effect of the diluent using polar and non-polar solvents in the extraction of nickel(II) is discussed. The extracted nickel (II) species were found to be CoL_2 in 1-octanol and methyl isobutyl ketone and $\text{CoL}_2 \cdot 2\text{HL}$ in toluene, dichloromethane, chloroform, carbon tetrachloride and cyclohexane. The extraction constants are evaluated for the different diluents.

Keywords : liquid-liquid extraction, cobalt(II), di(2-ethylhexyl) phosphoric acid, diluent effect

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