

Solvent extraction of molybdenum (VI) with two organophosphorus reagents TBP and D2EHPA under microwave irradiations

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Abstract : Solvent extraction studies of molybdenum (VI) with two organophosphorus reagents namely TBP and D2EHPA have been carried out from aqueous acidic solutions of HCl, H₂SO₄ and H₃PO₄ under microwave irradiations. The extraction efficiencies of the investigated extractants in the extraction of molybdenum (VI) were compared. Extraction yield was found unchanged when microwave power varied in the range 20-100 Watts from H₂SO₄ or H₃PO₄ but it decreases in the range 20-60 Watts and increases in the range 60-100 Watts when TBP is used for extraction of molybdenum (VI) from 1 M HCl solutions. Extraction yield of molybdenum (VI) was found higher with TBP for HCl molarities greater than 1 M than with D2EHPA for H₃PO₄ molarities lower than 1 M. Extraction yield increases with HCl molarities in the range 0.50 - 1.80 M but it decreases with the increase in H₂SO₄ and H₃PO₄ molarities in the range of 0.05 - 1 M and 0.50 - 1 M, respectively.

Keywords : extraction, molybdenum, microwave, solvent

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