

Ternary liquid-liquid Equilibria at 298.15 K for the phosphonium based ionic liquid contained systems in the molybdenum extraction process

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The organic solvents and diluents, such as tertiary amines and ketones, alkanes, and alkanols were used in the molybdenum (Mo) extraction process. However, because of environmental contamination of these organic compounds, a new environmentally friendly solvent will be needed. The ionic liquid (ILs) such as tri-hexyltetradecylphosphonium bis(2,2,4-trimethylpentyl) phosphinate([P666,14][TMPP]) show a good selectivity to Mo from aqueous Mo leached solution. In this work, therefore, we report the liquid-liquid equilibrium (LLE) for ternary {sulfuric acid solution (pH 1.0) + modifier + [P666,14][TMPP]} system at 298.15 K for development of recycling process of solvents and modifiers in the Mo extraction process. The experimental LLE data were correlated with using the NRTL and UNIQUAC equations

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