

## Thermodynamic Phase Behavior of extractants for Molybdenum

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Molybdenum (MO) is a strategic metal and industrially used in high-pressure and temperature resistant greases between metals and catalysts. Consequently, the extraction and purification processes of Mo are very important. In this work, the solid liquid (SLE) phase equilibria of the following combination of extractant, {Trioctylamine [TOA] + 1-octanol, 1-decanol or Tirbutylphosphate [TBP]}, {TBP + 1-octanol or 1-decanol} and {1-octanol + 1-decanol}, have been measured. Moreover, liquid - liquid equilibria (LLE) of ternary mixtures {n-decane + TOA or TBP + water} have also been measured. The common amine and phosphate extractant, TOA and TBP, provide high extent of extraction for Mo. The extractants, TOA and TBP, can be usually used for solvents and 1-octanol or 1-decanol be used as a modifier. However, the extract systems also include modifiers (alcohols). Accordingly the separation of solvent and modifier should be important for recovery of solvent and development of clean technology. That's why we present SLE or LLE for the systems based on TOA or TBP. The experimental data were correlated using NRTL equation and compared with the correlated values.