

## TBP在水相中活度系数的探讨

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**摘要** 本文对TBP-C<sub>6</sub>H<sub>6</sub>、TBP-CCl<sub>4</sub>、TBP-CHCl<sub>3</sub>及TBP-C<sub>6</sub>H<sub>5</sub>Cl四体系作了蒸汽压法测量,对TBP-C<sub>6</sub>H<sub>5</sub>Cl体系作了<sup>32</sup>P标记法测量,其它三体系<sup>32</sup>P标记法数据取自文献.分析了二种测量的结果.所得的稀释剂的活度系数应该基本一致.

**关键词** [系数](#) [同位素标记](#) [磷酸三丁酯](#) [活度](#) [蒸气压力](#) [水相](#) [磷同位素](#)

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## Preliminary investigation of the activity coefficient of TBP in aqueous phase

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**Abstract** The activity coefficients of TBP in various diluents (C<sub>6</sub>H<sub>6</sub>, CHCl<sub>3</sub>, CCl<sub>4</sub>, and PhCl) were determined by <sup>32</sup>P-labeled TBP distribution and vapor pressure measurements. By assuming that the activity coefficients of TBP in H<sub>2</sub>O is 1, the solvent activity coefficients  $g_1$  measured by 2 different methods show some discrepancies. Comparison of the activity coefficients of 4 systems determined by the 2 methods showed the regularity of TBP activity coefficient in the aqueous phase. The  $g'_2/g''_2$  value and the equation  $g_2 = (g'_2/g''_2 A_2/x_2)$  are used to calculate  $g_2$ , where  $g_1$  denotes activity coefficient of TBP in the organic solvent,  $g_2$ , activity coefficient of TBP solution in the aqueous phase;  $g''_2$ , activity coefficient of pure TBP in the aqueous phase;  $x_2$ , mol fraction of TBP in the organic phase;  $A_2$ , the ratio of radioactivities of aqueous phase equilibrated with <sup>32</sup>P-labeled TBP solution and pure TBP. The activity coefficient  $g_1$  was calculated with the Gibbs-Duhem equation.

**Key words** [COEFFICIENTS](#) [ISOTOPE LABELLING](#) [PHOSPHORIC ACID TRIBUTYL ESTER](#) [ACTIVITY](#) [VAPOR PRESSURE](#) [WATER PHASE](#) [PHOSPHORUS ISOTOPES](#)

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