

热力学

## 2-戊基蒽醌在TMB/TOP中溶解度的测定与关联

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摘要

关键词 [2-戊基蒽醌](#) [液固相平衡](#) [磷酸三辛酯/三甲苯体系](#) [溶解度](#) [过氧化氢生产](#)

分类号

## MEASUREMENT AND CORRELATION OF SOLUBILITY OF 2-AMYLANTHRAQUINONE IN TMB / TOP SOLUTIONS

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### Abstract

2-Amylanthraquinone (AAQ) is a novel, effective working carrier and a potential substitute of 2-ethylanthraquinone (EAQ) in hydrogen peroxide production process. In order to obtain the basic data for the process development, the equilibria method was used to experimentally measure the solubility of AAQ in the mixed organic solvents of trimethylbenzen (TMB) and trioctyl phosphate (TOP) with different volume ratios, at 298.15—323.15 K. It was found that the solubility of AAQ was ca. 3 times greater than EAQ at the same conditions. Finally, experimental data were correlated by the modified  $\lambda$ -h equation, in which a factor of the solvent composition was added. The results showed that the modified  $\lambda$ -h equation can be used to predict the solubility of AAQ in TMB/TOP system with an average relative deviation (ARD) of 5%.

**Key words** [2-amylanthraquinone](#) [liquid-solid equilibrium](#) [trimethylbenzen/trioctyl phosphate system](#) [solubility](#) [hydrogen peroxide manufacture](#)

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