

一种新型密度计及水、丙酮、4-甲基-2-戊酮(MIBK)三元混合物的密度测定

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摘要 我们设计了一种小型密度计,它用螺旋测微计作体积置换泵,可测到 3×10^{-4} mL的体积变化。实验时仅需8 mL样品便可精确测定各温度下的密度,其精度 $\leq 2 \times 10^{-4}$ g/mL,而且操作简单,用该装置测定了293.15-323.15 K水、丙酮、MIBK及相应的二元、三元体系的液体密度,并进行了关联。

关键词 [水](#) [丙酮](#) [密度测定](#) [三元混合物](#) [戊酮](#) [密度](#)

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A new density meter and the density measurement of water-acetone-4-methyl-2-pentanone (MIBK) ternary mixture

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Abstract A new density meter was designed and the screw micrometer was used as a volume exchange pump to measure the change of liquid volume. It can measure the volume of 3×10^{-4} mL, and needs only 8 mL sample to accurately measure the densities at different temperatures. The meter is very simple, however, it gives a high accuracy, 2×10^{-4} g/mL. With this meter, the liquid densities of water, acetone, MIBK and the corresponding binary and ternary mixtures were measured over 293.15-323.15 K.

Key words [WATER](#) [ACETONE](#) [DENSITY MEASUREMENT](#) [TERNARY MIXTURE](#) [PENTANONE](#) [DENSITY](#)

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