

Volume change on the formation of the complex EDTA-Mg 2+ in water at 25 °C

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Abstract

The volume of the chelate formation between ethylenediaminetetraacetic acid tetrasodium salt and the Mg 2+ cation in water was measured for the first time. The volume of the complex formation increases with dilution of the solution and reaches the limit of $29.9 \pm 3 \text{ cm}^3 \text{ mol}^{-1}$ at 25 °C. The changes in the volume during the chelation and the entropy of the complex formation were compared. © 2011 Springer Science+Business Media, Inc.

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Keywords

Chelation volume, Electrostriction volume, Ethylenediaminetetraacetic acid, Magnesium sulfate