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超微SiO₂的分散机理

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摘要: 用沉降法研究了超微SiO₂在水溶液中的分散行为, 探讨了超分散剂PSE与传统分散剂的分散效果, 并通过颗粒间相互作用能计算进一步研究了超分散剂PSE的作用机理。结果表明: A-B嵌段型超分散剂PSE的分散效果最好, 且不受介质pH的影响, 其分散稳定作用的实质是增强了微粒间的静电排斥作用和空间位阻排斥作用, 并减弱了范德华吸引作用。

关键字: 超微SiO₂; 超分散剂; 分散

Dispersion mechanism of ultrafine silica

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Abstract: The dispersion behavior of ultrafine silica in aqueous system was investigated by the sedimentation test, and the effect of hyperdispersant PSE was studied comparing with traditional dispersants. Furthermore, the mechanism of PSE in the systems was revealed through calculating the interaction energies between particles. It is showed that the diblock hyperdispersant PSE is efficient and not affected by the pH of medium, and its main action is to increase the electrostatic force and the steric force and decrease the Van der Waals force due to adsorption dispersants.

Key words: ultrafine SiO₂; hyperdispersant; dispersion

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