

低剪切速率下聚乙二醇 / KCl / 蒙脱土分散体系的剪切稠化现象

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**摘要** 用Hakke RS75流变仪研究了聚乙二醇(PEG) / KCl/蒙脱土分散体系的流变性。结果发现,当KCl和聚乙二醇浓度在一定范围内时,体系随剪切速率增加,表现出剪切稀释-剪切稠化-剪切稀释的复杂结构变化,并且剪切稠化发生在低剪切速率区。KCl浓度继续增加,剪切稠化逐渐减弱。TME表明,蒙脱土分散体系中加入 KCl使得蒙脱土颗粒聚集,而聚乙二醇导致轻微絮凝;二者同时加入,体系形成细枝条状的空间稳定结构。

**关键词** [剪切速率](#) [聚乙二醇](#) [分散体系\(化学\)](#) [稠化剂](#) [流变现象](#) [氯化钾](#) [透射电子显微术](#)

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## Effect on Shear Thickening of Polyglycol/KCL/Montmorillonite Dispersion at Low Shear Rates

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**Abstract** The viscosity of dispersion of polyglycol/KCl/montmorillonite as shear rate increases is studied by RS75 Haake rheometer. It turns out that the dispersion shows a complex transition process of shear-thinning → shear-thickening → shear-thinning as the increase of shear rate when polyglycol and KCl are present together in a certain range of concentrations, shear thickening weakens gradually. The photographs of TEM indicate that KCl causes montmorillonite to aggregate together and polyglycol solely leads to slight flocculation in montmorillonite dispersion. When both of them are present, the dispersion forms sterically stable state of strip structure.

**Key words** [SHEAR RATE](#) [POLYGLYCOL](#) [DISPERSE SYSTEM](#) [THICKENERS](#) [RHEOLOGY](#) [PHENOMENA](#) [POTASSIUM CHLORIDE](#) [TRANSMISSION ELECTRON MICROSCOPY](#)

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