عنوان مقاله:

The Performance of Polymethyl Methacrylate/Clay Nanocomposite as Novel Pour Point Depressant on Rheological Properties of Model Waxy Crude Oil

نویسندگان:

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خلاصه مقاله:

A novel polymeric nanocomposite pour point depressant (PPD), based on polymethyl methacrylate (PMMA) and montmorillonite (MMT) clay, was synthesized and characterized. For a comprehensive comparison, the influence of neat polymethyl methacrylate (PMMA) and PMMA/clay nanocomposite on reducing pour point, gelation point, apparent viscosity, and yield stress of a model waxy crude oil was investigated, followed by evaluation of their performances precisely. The rheometry test results showed that the addition of ۴۰۰ ppm of PPMA and ۸۰۰ ppm of PMMA/clay nanocomposite to waxy crude oil reduced the pour point from ۱۳°C (for untreated sample) to ۰ and -۳ °C, respectively. Thus, the addition of PMMA/clay nanocomposite to waxy crude oil resulted in a ۱۲۰% reduction in the pour point.

کلمات کلیدی:

Pour point depressant, Polymeric nanocomposite, Montmorillonite, Model waxy crude oil, Rheological Properties

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