

عنوان مقاله:

Improvement of Microencapsulated PCMs Characteristic by Variation of Effective Curing Parameters

محل انتشار:

چهاردهمین کنگره ملی مهندسی شیمی ایران (سال: 1391)

تعداد صفحات اصل مقاله: 4

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خلاصه مقاله:

Microcapsules containing n-hexadecane (HD) as the core and melamine-formaldehyde (MF) prepolymer as the shell material were prepared via in-situ polymerization and some effective curing parameters such as pH, temperature and hardener type were investigated as the affecting factors on the characteristics of the resulting microcapsules. The morphology and thermal properties of the microcapsules were studied using scanning electron microscopy (SEM) and differential scanning calorimetry (DSC) and thermogravimetric analysis (TGA), respectively. The surface morphology of microcapsules showed that the prepared microcapsules at low temperature and high pH were mechanically unstable. From the DSC analysis, it was concluded that for all samples, encapsulation efficiencies of about 90-100% were obtained. It was shown by TGA that the samples prepared at 60 °C and pH of 5 had higher thermal stability

کلمات کلیدی:

Microcapsule, Melamine-formaldehyde, Thermal stability, Phase change material

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