

Synthesis and properties of montmorillonite/polyimide nanocomposite film

Lei, Yong; **Liu, Yu-feng**; Jiang, Lu-xia; Fu, Qiang

Dept. of Polym. Mat. Sci. & Eng., Sichuan Univ., Chengdu, Peop. Rep. China

Fuhe Cailiao Xuebao (2002), 19(3), 42-45.

CODEN: FCXUEC ISSN: 1000-3851. Journal written in Chinese. CAN 138:205934 AN 2002:740528 CAPLUS

Abstract

The Montmorillonite/Polyimide nanocomposite film was prepared. with pyromellitic dianhydride and 4,4'-diaminodiphenyl ether as monomers, AcNMe₂ as solvent, and tricetylammonium chloride-treated organic montmorillonite (16-MMT) as inorganic reinforcer. The microphase of the above film was characterized with TEM, XRD, TGA, DSC, etc. The results show that the proper content of 16-MMT in the matrix can lead to a nanophase reinforcement (1-2 nm in thickness) dispersion system. There was some orientation behavior in the matrix after 16-MMT was delaminated into sheets.

Indexing -- Section 38-3 (Plastics Fabrication and Uses)

Polyimides, uses

Role: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(Synthesis and properties of montmorillonite/polyimide nanocomposite films)

Nanocomposites

(film; Synthesis and properties of montmorillonite/polyimide nanocomposite films)

25036-53-7P, 4,4'-Diaminodiphenyl ether-pyromellitic dianhydride copolymer, sru

25038-81-7P, 4,4'-Diaminodiphenyl ether-pyromellitic dianhydride copolymer

Role: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(Synthesis and properties of montmorillonite/polyimide nanocomposite films)

51145-31-4, Tricetylammonium chloride

Role: MOA (Modifier or additive use); USES (Uses)

(montmorillonite treated with; Synthesis and properties of montmorillonite/polyimide nanocomposite films)

1318-93-0, Montmorillonite, uses

Role: TEM (Technical or engineered material use); USES (Uses)

(tricetylammonium chloride-treated; Synthesis and properties of montmorillonite/polyimide nanocomposite films)

Supplementary Terms

montmorillonite polyimide nanocomposite film prepn