

عنوان مقاله:

Study on thermal property of Polyurethane-Urea elastomers prepared with different dianiline chain extenders

محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

تعداد صفحات اصل مقاله: 8

نویسندگان:

majid barikani - *Department of Polymer Engineering, Science and Research branch, Islamic Azad University, Tehran, Iran*
Iran Young Research Club, Science and Research branch, Islamic Azad University, Tehran, Iran

naghmeh fazeli - *Department of Polymer Engineering, Science and Research branch, Islamic Azad University, Tehran, Iran*

mehdi barikani - *Iran Polymer and Petrochemical Institute, P.O.Box 14965/115, Tehran, Iran*

خلاصه مقاله:

A number of polyurethane prepolymers based on polycaprolactone diol (CAPA), and 4,4'-diphenyl methane diisocyanate (MDI) were synthesized and extended with different dianilines such as: 4,4'-Methylenebis(2,6-diisopropylaniline) (M-DIPA), 4,4'-Methylenebis(2-isopropyl-6-methylaniline) (M-MIPA), 4,4'-Methylenebis(2,6-diethylaniline) (M-DEA), and 4,4'-Methylenebis(3-chloro-2,6-diethylaniline) (M-CDEA). A method of using high melting point chain extenders in the synthesis of castable polyurethane Elastomer was applied in which the high melting point chain extenders was first dissolved in DMF before mixing with prepolymer. Using this method it was found possible to carry out a bulk polymerization in the normal PU reaction temperature range of 80-100°C. IR spectroscopy was used to check the end of polymerization reaction and polymer characterization. Thermal properties were measured by means of DMTA, TGA and DSC and The effect of dianiline structure on the thermal properties of the cast films were studied and compared. It was found that the Thermal properties and thermal stabilities are affected by variation of dianiline molecular structure.

کلمات کلیدی:

diamine, thermal stability, dianiline, polyurethane, TGA

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