



Differential Scanning Calorimetric Studies (DSC) of oxazolidone modified epoxy resin using Pyromellitic Dianhydride (PMDA)

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ABSTRACT

High temperature resistant modified epoxy resins – oxazolidones, were synthesized, Diglycidal ether of Bisphenol-A (DGEBA) and Toluene Diisocyanate (TDI). Development of modified epoxy resins stable at high temperatures is in demand, because they are versatile polymers widely used in technical applications like coatings, encapsulations, structural composites, castings and adhesives. Structural characteristics of oxazolidones were studied using FTIR spectroscopy. The curing behavior of oxazolidone modified Diglycidal Ether of Bisphenol-A (DGEBA) was investigated by Differential Scanning Calorimetry (DSC) by preparing blends with stoichiometric amounts of Pyromellitic Dianhydride (PMDA). The compatibility of the system was established by one single sharp peak without any byproducts being formed.

Keywords: Oxazolidone modified epoxy resin, Diglycidal ether of bisphenol-A, Higher thermal stability, pyromellitic dianhydride, Differential scanning calorimetry.
