



Synthesis Characterization and Miscibility of Polyvinyl Butyrals of Varying Vinyl Alcohol Contents

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Polyvinyl butyrals (PVB) of systematically varying vinyl alcohol content have been synthesized and characterized using wet chemistry, IR, DSC, and TGA. The miscibility of PVB-PVB blends was studied by DSC as a function of vinyl alcohol content and vinyl alcohol content differences between the respective blend components. These data were used to construct an isothermal miscibility map of PVB and to calculate the intramolecular interaction parameter $c_{VA,VB}$. The $c_{VA,VB}$ was a function of the absolute level of the vinyl alcohol (VA) and vinyl butyral (VB) contents of the polymers. In addition, the thermal stability of polyvinyl butyral was found to be inversely related to the residual vinyl alcohol content of the polymer.

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