

Preparation and Properties of PVA(Polyvinyl alcohol) Crosslinking Films Using Glyoxal

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PVA(Polyvinyl alcohol) crosslinking films with biodegradability and biocompatibility were prepared by various contents by using glyoxal. Variation of the physicochemical properties of the PVA(degree of polymerization : 1700, saponification : 98~99.5%) films with glyoxal content in the range 2~8% was investigated through to DSC, TGA, FT-IR, XRD and UTM. By the result of DSC, as the Glyoxal contents increased, the melting point and crystallization temperature of PVA/glyoxal films decreased. TGA analysis indicated that PVA/glyoxal films were thermally more stable than pure PVA film due to some interactions between two component in the PVA and glyoxal. Tensile strength of pure PVA(15wt%) film were 72N/mm², and the tensile strength of the PVA/glyoxal films were 83.5N/mm² increased with glyoxal content. The PVA/glyoxal film including 8% glyoxal exhibited high tensil strength and thermally stable.