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Some aspects of processing of PVA as biodegradable polymer*B. Šimková (a), P. Alexy (a), D. Bakoš (a), V. Fuleová (a) and I. Lacík(b)**(a) Department of Plastics and Rubber, Faculty of Chemical and Food Technology, Slovak University of Technology, Radlinského 9, 812 37 Bratislava, Slovakia**(b) Polymer Institute, Slovak Academy of Sciences, Dúbravská 9, 842 36 Bratislava, Slovakia*

Biodegradable polymers play important role in development of environment friendly materials, mainly for packaging industry. Polyvinylalcohol (PVA) represents synthetic, water soluble polymer, which can be fully biodegrade under suitable conditions. Solubility in water gives to this polymer the special attributes from processing as well as application points of view. Due to its water solubility, films made from PVA are used for production of laundry bags, water soluble bags for technical and agricultural applications etc. First PVA films with high quality were made using casting technology based on water solution or gels of various type of PVA. This technology is relatively expensive because of high energy consumption during dissolving of PVA and consequently drying of final product. The other way for film production is blow moulding technology. Processing of PVA in the melt state brings several problems originated from its relatively high sensitivity to thermal degradation as well as high viscosity of the PVA melt. In our work, influence of degree of hydrolysis, molecular weight and chemical irregularities on thermal degradation during extrusion was described. Also influence of chemical origin, processing parameters and plasticizer concentration on rheological properties of PVA melt was investigated. Chemical changes in the PVA melt during extrusion were observed using SEC, NMR and FTIR technique. Obtained results shows, that thermal stability of PVA melt depends mainly on microstructure inhomogenities and secondarily on degree of hydrolysis.