

Solid-State Polymerization of High Temperature Copolyamides of tetramethylenedipamide and tetramethyleneterephthalamide

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High temperature copolyamides were prepared by melt-polymerization (MP) process of tetramethylenedipamide (nylon 4,6) salt and tetramethyleneterephthalamide (nylon 4,T) salt. But, these have very low molecular weight and it is difficult to obtain high molecular weight copolyamides using MP process. These were synthesized to high molecular copolyamide by solid-state polymerization (SSP) as a function time, temperature, particle size and moisture content in a gaseous nitrogen/steam flow of atmospheric pressure. The thermal properties and molecular weight were measured by differential scanning calorimetry (DSC) and ubbelohde viscometer.