

TITLE

PROCESS FOR INCREASING THE DIRECT
ESTERIFICATION REACTION RATE OF
A DIACID WITH A GLYCOL

ABSTRACT OF THE DISCLOSURE

A process for increasing the direct esterification reaction rate between a diacid and 1,4-butanediol and for directly esterifying greater than 95% of the acid ends of the diacid by mixing in any order the diacid, the 1,4-butanediol and a catalyst compound selected from organo-titanium, organo-tin, and organo-zirconium compounds, to form a reaction mixture wherein the ratio of diol:diacid is at least 2:1 and then reacting the reaction mixture at an average temperature ranging between 190°C to 240°C for a period of time no longer than sixty minutes. The same process may be followed substituting ethylene glycol for 1,4-butanediol, provided the catalyst compound is added neat, further provided that the average reaction temperature ranges from 190°C to 200°C, and also provided that the reaction mixture be reacted for a period of time no longer than seventy minutes. The product resulting from this process may be polycondensed or further treated to form a high molecular weight polymer.

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