

Study of a procedure for the obtainment of methylcellulose from mechanic pulp in homogeneous media

Tapia, Cristian

Hagar, Jaime Sapag

Siches, Pedro

Valenzuela, Fernando

Basualto, Carlos

The etherification reaction of mechanic pulp (MP) with dimethylsulphate (DMS) in homogeneous media was studied using a 25-1 fractional factorial experimental design. In accordance to this model the quantity of DMS/2 g of dissolved MP and the interaction between reaction temperature and reaction time were established as reaction critical factors. The results obtained under different reaction conditions showed a low mass yield (around of 20%) and a low percentage of methoxylation (%MeO) (around of 0.5%). The reasons that could explain this low performance of reaction would be a low NaOH solubility in the mixture solvent dimethylacetamide - lithium chloride (DMAc/LiCl) which would produce a poor cellulose activation, and the heterogeneous composition of MP which contains besides cellulose, hemicelluloses and lignin, which also could react with DMS.