

# ABSTRACT

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Title of the Thesis	The study of directly compressible tableting materials with agglomerated $\alpha$ – lactose monohydrate and lubricants

This work deals with the study of tableting materials, which contain agglomerated  $\alpha$ -lactose monohydrate (Tablettosa<sup>®</sup> 80) and four types of lubricants at concentration of 1%. The used lubricants were magnesium stearate, calcium stearate, sodium-stearyl-fumarate and glyceryl behenate. Flow properties of the mixtures, energy profile of the compression process, ejection force, tensile strength and disintegration time of tablets were evaluated. The compression parameters and the properties of tablets were evaluated depending on the compression force.

The flow properties were most improved by magnesium stearate. Glyceryl behenate didn't affect them. Total energy of the compression process increased with increasing compression force. The mixture with calcium stearate had the lowest value of total energy and the mixture with sodium-stearyl-fumarate had the highest value. Plasticity decreased with increasing compression force. Values of the ejection force showed that glyceryl behenate can't be used at concentration of 1%, due to its poor lubrication properties. Tablets with sodium-stearyl-fumarate showed the highest tensile strength at the compression force of 15 and 17 kN. Tablets with glycerol-dibehenate had the highest tensile strength at the compression force of 13kN. Tablets with magnesium stearate had the longest disintegration time.