Abstract

This thesis is comparing two types of partially pregelatinized corn starch, Starch 1500® and Lycatab® C from the standpoint of compressibility and lubricant sensitivity of these substances. Magnesium stearate and sodium stearyl fumarate in 0.5 and 1 % concentration were used as lubricants. Starches were also tested in the mixtures with spray-dried lactose Flowlac® 90 in 10, 20 and 30 % concentration. The compressibility was evaluated by means of energy profile of compression process and determination of tensile strength of tablets. Lubricant sensitivity of substances was evaluated using LSR values.

The tableting materials with Lycatab® C exhibited higher values of the total compression and pre-compression energy, than with Starch 1500® tableting materials, lubricants addition decreased these values. The tableting materials with Flowlac® 90 exhibited higher values of these energies for both types of starch and lubricants addition decreased their values. Higher values of compression energy were in tableting materials with Lycatab® C, also decreased by lubricants. Flowlac® 90 addition had no effect in compression energy with Starch 1500®, value decreasing was with Lycatab® C substance. The tableting materials with Lycatab® C had higher value of plasticity than with Starch 1500®, lubricants decreased plasticity slightly. The plasticity of tableting materials with Starch 1500® was increased by Flowlac® 90, with Lycatab® C was decreased. The lubricants decreased plasticity slightly. The tableting materials with only starch provided stronger tablets. Lubricants addition decreased rapidly tensile strength. Lycatab® C exhibited higher lubricant sensitivity. Flowlac® 90 increased the strength of tablets with Starch 1500®, with Lycatab® C decreased the strength of tablets.