

ABSTRACT

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Title of the Thesis A study of a novel dry binder composed of α -lactose monohydrate, microcrystalline cellulose and corn starch

This paper deals with a study of the novel dry binder Combilac[®], which contains 70 % of α -lactose monohydrate, 20 % of microcrystalline cellulose and 10 % of native starch. These tests include flow properties, compressibility, lubricant sensitivity, tensile strength and disintegration time of tablets. Compressibility is evaluated by means of the energy profile of compression process and tablet strength. The above-mentioned parameters are also evaluated in the physical mixture of α -lactose monohydrate, microcrystalline cellulose and native corn starch and results are compared.

Combilac[®] and physical mixture cannot be compressed without lubricants due to high friction and sticking to the matrix. Combilac[®] shows much better flowability than the physical mixture of the used dry binders, its compressibility is better and the total energy is higher. Tablets possess a higher tensile strength and higher lubricant sensitivity. Disintegration time of Combilac[®] tablets is comparable with the disintegration time of tablets made from the physical mixture.