

Abstract

Charles University, Faculty of Pharmacy in Hradec Králové

Department of: Pharmaceutical technology
Mentor doc. PharmDr. Zdeňka Šklubalová, Ph.D.
Consultant: Mgr. Daniel Pěček
Student: Jakub Křikava
Title of Thesis: Compatibility study of excipients and active substance
 in tablet mixture

The aim of this work was to study interactions between lubricants and disintegrants used in the tablet mixtures for direct compression with high content of a drug. Binary mixtures of the drug and a selected excipient were prepared in the 1:1 ratio and that used in tablets. Modified tablet mixtures in which one of the excipients was excluded were prepared as well. The mixtures were subjected to the stress tests at the higher temperature/humidity. The influence on the thermal characteristics, porosity, the tensile strength and disintegration time of tablets was studied. Results showed that crospovidone interacts with a drug what worsened the properties of tablets and this negative effect was forced in the presence of stearic acid. Combination of crospovidone and stearic acid in tablet mixture increased the tablet tensile strength and disintegration time significantly. This combination cannot be recommended for the preparation of tablets. In case of the used drug, crosscarmellose sodium represents the better disintegrant.