

Abstract

This thesis deals with the characterization of pressing energy using the force-displacement diagram.

The theoretical part defines the substance – simvastatin – and excipients which could occur in unknown samples. Also energies of pressing process, methods of assessment of force-displacement diagram for different substances and factors which affect pressability and thus the pressing energy are described there.

The aim of the experimental part of the thesis was to characterize the energy profile using force-displacement diagram of eight batches of preparation simvastatin and to find applicable method of assessment. Tablets were pressed from each batch of preparations using a T1-FRO 50 machine at three pressing forces 5, 10, and 15 kN. Obtained parameters E_2 , E_3 , E_{lis} and PI were evaluated using three methods: method of outlying values, method of analysis of average for one factor and method of analysis of average for two factors. The most suitable method for assessment of divergent values is the method of analysis of average for two factors thanks to its complex character. This method showed lower values of the parameters E_1 , E_2 , E_{lis} and PI for batches E, G and H which could be caused by larger particles and higher moisture of granulate.