Abstract

The aim of this study is to determine whether dissociation and a change of crystal modification of ibuprofen do not arise during the compression process. For this purpose an evaluation by means of equation of compression, evaluation by stress relaxation, evaluation by force-distance diagram and evaluation by differential scanning calorimetry is accomplished.

The equation of compression developed by department of pharmaceutical technology describes the process of compression by parameters of three phases: phase before compression, phase elastic and plastic deformation. The test of stress relaxation was performed at compression force of 5, 10 and 15 kN.

During the evaluation of a force-distance record phase of compression and relaxation of tablet was examined from energetic point of view at compression force of 5, 10, 15, 20, 25, 30, 35, 40 kN.

These tablets were also evaluated by means of differential scanning calorimetry.

Two basic conclusions arise out of the measured results: during the compression process dissociation or modification of crystal form if ibuprofen and simultaneously low plasticity of medicinal substance was found out (at compression force of 15kN plasticity was only 47 %).