

Abstract

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Title of Diploma Thesis: Compressibility evaluation of liquisolid powders containing varying amount of coating material

The preparation of liquisolid systems consists of sorption of the drug in a liquid form into a porous material to form a dry powder with good flow properties. This final formulation has the premise to achieve an increased bioavailability of poorly soluble drugs.

This diploma thesis focuses on the evaluation of the flow and viscoelastic properties of liquisolid powders and the quality parameters of the resulting tablets. The liquisolid systems were prepared by using Neusilin[®] US2 as a carrier, polyethylene glycol 400 as a solvent and varying amount of two different types of coating material (Aerosil[®] 200 and Aeroperl[®] 300 Pharma).

The obtained results revealed that the liquisolid powders with Aeroperl[®] 300 Pharma implies better flow properties and lower values of compression energy. However, tablets containing Aerosil[®] 200 showed higher mechanical resistance. The optimal ratio of carrier and coating material (R) for Neusilin[®] US2, polyethylene glycol 400 and Aerosil[®] 200 seems to be the value 40, while for Aeroperl[®] 300 Pharma the optimal R value is 25.