

ABSTRACT

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Title of thesis: Assessment of liquisolid powders compressibility with regards to the used amount of coating material

Preparation of liquisolid system is a novel method capable to convert a drug in the liquid state into a dry powder with sufficient flow properties. This method allows to improve the bioavailability of poorly water-soluble drugs or to prepare dosage forms with controlled release.

This thesis is focused on the determination of flow and viscoelastic properties of liquisolid powder mixtures containing Neusilin[®] US2 (carrier), polyethylene glycol 400 (non-volatile solvent) and varying amounts of Syloid[®] 244 FP (coating material). Subsequently, the properties of tablets prepared from the mixtures were evaluated in compliance with Czech Pharmacopoeia (e.g. mass uniformity, pycnometric density, height, diameter, hardness friability and disintegration time of tablets).

According to the obtained results, it can be concluded that the best flow properties implied mixtures with lower content of Syloid[®] 244 FP. Tablets made with the ratio of the carrier and the coating material equal to 50 showed the best properties as they reached the highest values of tensile strength and the lowest friability. Moreover, these tablets fulfilled all other requirements given by Czech Pharmacopoeia.