

# Abstract

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Title of Thesis: Determination of the flowable liquid retention potential of silicates for polyethylene glycol 400 and propylene glycol

Liquisolid systems are modern dosage form used to increase the bioavailability of poorly water-soluble drugs. The basic principle of liquisolid systems formulation lies in sorption of a drug in a liquid state onto a highly porous carrier which is subsequently coated with a material possessing a large surface area. This process leads to the forming of dry non-adhesive powder with properties suitable for further processing. After oral administration, these systems allow elimination of dissolving as the drug is in already dissolved state.

However, the ability of the powder to retain liquid while maintaining acceptable flow properties is limited. The aim of this diploma thesis was to determine the maximum amount of liquid (polyethylene glycol 400 and propylene glycol) that the powder (Veegum<sup>®</sup> HS, Veegum<sup>®</sup> F and Syloid<sup>®</sup> 244 FP) can absorb while maintaining suitable flow properties (flowable liquid retention potential). The value of flowable retention potential was established to 0.14 for Veegum<sup>®</sup> HS with macrogol 400 and Syloid<sup>®</sup> 244 FP with macrogol 400, 0.08 for Syloid<sup>®</sup> 244 FP with propylene glycol, 0.06 for Veegum<sup>®</sup> HS with propylene glycol and 0.04 for Veegum<sup>®</sup> F with macrogol 400 and Veegum<sup>®</sup> F with propylene glycol. The values of flowable retention potential are lower compared to commonly used carriers and therefore the tested substances are more suitable for use as coating materials.