

ABSTRACT

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Title of diploma thesis: *Rheological properties of White Soft Paraffin*

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This diploma thesis deals with the evaluation of consistency and rheological properties of the Soft Paraffin after viscosity modification by either Liquid or Solid Paraffin. The theoretical part focuses the characteristics and application of the hydrocarbon excipients, their use in pharmacy and comparison with other substances, rheological properties of semisolids and their consistency. Consistency by penetrometry according the Czech Pharmacopoeia 2009 and rheological properties using Kinexus rheometer were measured. Consistency of Soft Paraffin was significantly influenced with 5 % of Liquid Paraffin and 10 % of Solid Paraffin. The result of consistency assessment is significantly influenced by the method of the samples preparation. Rheograms and viscosity curves was constructed. Plastic systems were described in detail by the parameters of power law model and yield stress value. The addition of 5 % of Liquid Paraffin to the Soft White Paraffin caused the decrease of the coefficient of consistency and the flow index. A further addition of Liquid Paraffin has no effect on these characteristics. The addition of Solid Paraffin influenced only the consistency coefficient, namely at concentration of 20 %. The yield stress value and the viscosity on the flow showed considerable variability and cannot be used for determination of the consistency.

Key words: White Soft Paraffin, consistency, rheogram, viscosity curve, yield stress, consistency coefficient, flow index.