

## **ABSTRACT**

CHARLES UNIVERSITY

Faculty of Pharmacy in Hradec Kralove

Department of Pharmaceutical technology

Name: Klára Tenorová

Title of diploma thesis: Thixotropy test of semisolid preparations

Supervisor: PharmDr. Eva Snejdrova, Ph.D.

This thesis deals with the study of thixotropic properties of selected semi-solid preparations such as Vaselinum album, Adep lanae, Adeps lanae cum aqua, Alcoholis cetylici unguentum and Alcoholis cetylici cremor. The theoretical part deals with characterization of semi-solid preparations and ointment bases, rheology, rheometry and description of the tests used in the measurement. The experimental part deals with the description of viscosity curves and with the measurement of time dependency of flow behaviour by thixotropic test. Model semi-solid samples show only partial recovery, i.e. false thixotropy. The highest recovery of the structure was shown by Adeps lanae, 83 % at 25 °C and 79 % at 32 °C. The flow behaviour are changed by incorporation of the water depending on the character of the semisolid preparation. At 25 °C, the viscosity recovery rate was lower than at 32 °C for all samples except Adeps lanae. After the emulsification of 25% water to Adeps lanae, the recovery rate at both temperatures was significantly reduced, which means that lanolin is slower to recover to the original structure.

**Key words:** semisolids, thixotropy, thixotropic test.