

## **RHEOLOGY-BASED CHOICE OF THE GELLING AGENT IN THE COMPOSITION OF THE SEMISOLID FORM FOR APPLICATION IN THE COMBUSTIOLOGY**

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**Introduction.** In medicine, burns are one of the widespread types of injuries that can occur in the home or in the workplace, and represent not only a medical but also a socio-economic problem.

Burns in developed countries are one of the most common types of injuries in peacetime. According to the World Health Organization, burns occupy 3rd place among injuries, with the number of victims constantly increasing.

**Aim of the study.** The purpose of our work is to develop the composition and technology of gel for the treatment of thermal burns, which included vinylin, sea buckthorn oil and essential oil of lavender. As gel formers used – Lecigel (sample number 1), Sepinov EMT 10 (sample number 2), Sepineo P 600 (sample number 3).

**Materials and methods.** The choice of the gelling agent in composition of the gel was carried out on the basis of structural and mechanical studies. The rheological parameters of the prototype samples were measured on a rotary viscometer «MYR 3000 V2R» (Viscotech, Spain) in the coaxial cylinders system using the SPU technique in the range of shear rates from 0 to 200 rpm. The research was carried out at a temperature of  $(25 \pm 0,1) ^\circ\text{C}$ . Based on the results of the measurements, the rheograms of the shear stress ( $\tau$ ) dependence on the shear rate gradient ( $D_r$ ) were plotted, on which determined the type of flow, the yield point and the presence of thixotropic properties.

**Results.** All studied samples are characterized by the non-Newtonian type of flow. Their fluidity begins after some mechanical stress applied, that is, with the increase of kinetic energy, there is a breaking of bonds between its elements. All samples have similar stable behaviour, but sample number 3 has the best plasticity, so it will be easily applied to the skin and squeezed out of tubes, indicating good consumer characteristics

**Conclusions.** The conducted studies have shown that the most promising for further development of the composition and technology of the gel for use in combustiology is sample number 3 – gel former Sepineo P 600.

## **CHOICE OF THE METHOD FOR BIOLOGICALLY ACTIVE SUBSTANCES EXTRACTION FROM ROOTS AND RHIZOMES OF RHODIOLA ROSEA.**

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**Introduction.** One of the urgent tasks of modern pharmacy is the search for rational ways of using medicinal plant materials. In this respect, medicinal plants containing phenylpropanoids, which have adaptogenic, tonic, nootropic, antidepressant and immunomodulating properties, are of great interest. A valuable source of drugs of this spectrum of biological activity are rhizomes with the roots of *Rhodiola rosea*. This medicinal plant raw material has long been used in folk and official medical practice. However, the range of medicines derived from *Rhodiola Rosea* is small, despite the rather diverse chemical composition.

Of extraction preparations of *Rhodiola Rosea*, the pharmaceutical market of Ukraine has tincture and liquid extract. Tablets and capsules containing biologically active substances of this plant are mainly food supplements and are produced abroad.