

ointment it was necessary to choose the base, excipients, to substantiate the concentrations of dense oak bark extract (DOBE) and the essential oil of coriander, to determine the sequence of the technological process and critical points..

**Materials and methods.** Taking into account medical and biological requirements to the ointments for treating wounds at the second phase of the wound process it is not expedient to use hydrophobic bases because of the absence of the osmotic activity and creation of the “greenhouse effect”. Besides, such carriers minimize dynamic processes of diffusion, and it sharply worsens the release and penetration of medicinal substances.

The emulsion system of “oil-water” type corresponds to the task set to the fullest extent. Thanks to their physical and chemical properties these carriers provide a high efficiency and stability of the medicinal substances introduced. Besides, they replenish the moisture loss by the skin, are easily applied on the skin surface, rapidly absorbed without any oily sheen on the skin.

**Results and discussion.** The hydrophobic phase of the emulsion system is one of the most important components of the ointment, and it stipulates the basic consumer and technological characteristics. Thus, when selecting the hydrophobic phase, first of all, the properties of oil (spreading, the rate of drying, etc.) should be considered.

With the purpose of prevention of wound drying and prolongation of the therapeutical action of the ointment castor oil was chosen as a hydrophobic phase; it is also widely used in treating wounds and burns as a wound-healing component.

The nonionogenic emulsifier of the first generation – hydrogenated polyethoxylated castor oil (Eumulgin HRE 40) and the classical combined ionogenic emulsifier No.1 were used as emulsifiers.

Emulsions were prepared by classical methods: water and oil phases were heated separately to the temperature of 65 - 70 °C. The emulsifier was introduced before the oil phase. The water phase was added while mixing before the oil phase, then homogenization was carried out up to the complete cooling of the emulsion base. The rheological properties of the model samples of bases were examined.

The rheograms obtained testify that it is necessary to apply a significant shift tension for structure destruction. The uniform increase of the deformation speed with increase of shift tension is characteristic for the curves, then the rheogram goes into the straight line and it indicates the complete structure destruction. In the period of tension decrease the system’s viscosity is restored. It confirms the presence of plastically viscous and thixotropic properties of the bases. Formation of the “hysteresis loop” on the rheogram also testifies to thixotropy of the bases under study.

The composition of the emulsion base for creating the ointment with DOBE containing castor oil, glycerol, Eumulgin HRE 40, PEO-400, PEO-1500, PEO-4000 has been theoretically and experimentally substantiated for the treatment of the second phase of the wound process. The structural and mechanic properties of the carrier developed have been studied.

**Conclusions.** The rheological properties of the ointment models bases have been studied. On the basis of the rheological developed optimum composition of ointment’s basis has been choose. The character of influence of active substances by the rheological properties of ointment has been determined. The dependence of a ointment’s rheological properties on a temperature has been studied.

## **DEVELOPMENT OF THE COMPOSITION OF THE ECOSTICAL PURPOSE PROTECTIVE AGENT**

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**Introduction.** Too dry air, hot season and scorching sun, the constant detrimental impact of bad ecology causes irreparable harm to our skin, it lacks moisture in a catastrophic way. How to ensure a guaranteed deep hydration and skin protection for the whole day. In order to prevent skin from damage, both there shou’d used both normal weather-protective (winter and sun-protective) and protective hydrophilic products.

**Aim.** The aim of our work is to develop the composition of the extemporaneous hand protection and to choose the optimal constituents of the basis for creating a preventive moisturizer.

**Materials and methods.** Semi-solid medicines for dermal application are used for local action, transdermal delivery of active substances or for softening and protecting of the skin. According to the description, they must be homogeneous.

**Results and discussion.** Analysis of protective agents showed that conditionally they are divided into three groups.

The first type is with silicone. It perfectly protects the skin from the influence of chemical elements present in the composition of household chemicals. It allows you working with liquids – instantly forms a film that is able to protect firmly the surface. The second type is with glycerin. The leading part of its composition is glycerin, which gently takes care of the condition of the surface. Its universal effect is that it also forms thin, which is not only waterproof, but also does not leave oil pass.

The third type is with UV filters. In the composition there are sunscreen filters, which protect our skin from ultraviolet radiation in order. To study an agent that does not violate the water-fat balance to choose the effective option, it is you needed to know the characteristics of all components.

The studies were carried out using pharmacopoeial methods for studying semi-solid dosage forms and requirements given in the State Pharmacopoeia of Ukraine on samples of a protective agent of the following composition:

Glycerin – a component that contributes to the renewal of moisture balance;

Fruit acids – tighten the skin;

Vitamins A, E and F – provide the necessary components for metabolism;

Jojoba oil – makes the dry epidermis moisturized;

Vaseline oil – promotes rapid absorption of the product; SPF factor – protects from UV rays;

Triclosan – promotes recovery (renewal);

Silicones – create a protective film;

Hyaluronic acid – regenerates and gently moisturizes.

**Conclusions.** Based on the results of the studies, an extemporaneous cutaneous protective agent has been developed.

The manufacture of a protective skin remedy in a pharmacy will allow to expand the market of protective agents in Ukraine and contributes to the implementation of the import substitution program.

## **DEVELOPMENT OF THE COMPOSITION OF EMULSION CREAM ON THE BASIS OF AMARANTS OIL**

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**Introduction.** Plant raw materials are the source for more than a third of all drugs, virtually all dietary supplements, as well as therapeutic and cosmetic products. Such attention to the medicinal raw material is due to an increase in the number of people with intolerance of synthetic drugs in the world, as well as with the emergence of side effects in their application.

In recent decades, the attention of phyto-chemists has attracted the amaranth plant; a thorough study of its chemical composition has led to widespread use in both the food and pharmaceutical industries. Components of the amaranth oil composition provide a variety of pharmacological properties of therapeutic agents on its basis: anti-inflammatory, regenerative, antioxidant, nutritional, soothing. For the skin, the amaranth oil is valuable because of the large amount of squalene (about 8%), which has a chemical affinity with the tissues of the human epidermis, and therefore creates protection and moisturizes the skin, slowing down the aging process. Another component of amaranth oil – vitamin E – is a natural antioxidant, which also contributes to the preservation of youthfulness of the skin. Such a wide range of properties makes the urgency of creating a therapeutic cosmetic cream to eliminate dryness and age-related changes in the skin.