

systems, adverse effects on the environment, which allow development of the recommendation for manufacturer to minimize risks, reduce their impact to an acceptable level of quality risks, exposure dangerous and harmful production factors on the working staff and negative impact on the environment.

Therefore, when substantiating the technological process of obtaining a thick extract of oak bark (TEOB), as well as ointments and pharmacologically active dressing on its basis, and the selection of the necessary equipment faced us with the task of carrying out a risk analysis in their production. Risk analysis can serve as an effective tool for identifying sources of the negative impact of hazardous factors and the most critical factors, assessing and preventing possible problems, reducing of research volume, timing of their conduct and material costs, and achieving higher quality of products.

The algorithm for identifying chemical hazardous factors and assessing the level of risk of their impact on the production staff in the manufacture of medicines involves, first of all, an analysis of the properties of hazardous substances used in the production (literary search, and, if necessary, experimental research on the physical and chemical properties of raw materials, intermediate products, finished products, packaging materials, indicators of their fire safety, hygienic standards in the working zone, atmospheric air, water of household water reservoirs).

The purpose of our research was to study the indicated indicators for a new substance - the thick extract of oak bark, which is produced PJSC "Khimfarmzavod" Red Star ".

In the research department No. 1 of the Ukrainian Research Institute of Fire Safety of the Ministry for Emergencies of Ukraine, experimental studies were conducted on the study of indicators of the fire hazard of a TEOB (spontaneous combustion temperature, flash point, the maximum explosion pressure, etc.).

According to the results of the research, the Material Safety Data Sheet (MSDS) was developed for the TEOB, which contains information on safety during its production, use, storage, transportation. Security passports are included in the reference and information system of the enterprise, which is constantly supplemented with new data on sanitary and hygienic standards and indicators of fire safety of substances that are rotated in the production of the enterprise.

Information on hazardous substances is used in the development of measures for the safe conduct of technological processes, the organization of control of the harmful substance content in the air of working area and atmospheric air, certification of workplaces, determining the importance of environmental aspects of production, identification of potentially hazardous objects, objects of high danger, procedure for assessing the risks of dangerous and harmful production factors on the worker's and the risks of implementing emergency situations that minimizes risks in all phases of the life cycle of drugs.

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## **QUALITY AND TECHNOLOGY OF SUSPENSION DOSAGE FORMS**

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It is known that one of the most important factors that affects quality, therapeutic effectiveness and provides good consumer characteristics of the drug is its technology. The necessary factors for success in a market economy are two levels - quality and certification, which are inextricably linked. According to the WHO strategy, the quality assurance system of medicines is based on three essential components: - firstly, on a reliable system of registration and licensing; and secondly, on independent research of finished products; thirdly, on the quality assurance of medicinal products, due to the observance of certain mandatory principles, norms and rules related to GMP ("Good Manufacturing Practice") during their manufacture. The basic principles and rules that must be taken into account when developing the industrial technology of medicinal products are described in the Manual 42-01-2001 "Medicines. Good Manufacturing Practice".

The purpose of this work was to generalize the results of studies of physical-chemical properties of oral suspension, which are the basis of quality control methods, the definition of self-life and storage conditions of the medicine.

Suspensions are an important class of pharmaceutical dosage forms. The advantages of suspension dosage forms include effective dispensing of hydrophobic drugs; avoidance of the use of cosolvents; masking of unpleasant taste of certain ingredients; offering resistance to degradation of drugs due to hydrolysis, oxidation or microbial activity; easy swallowing for young or elderly patients; and efficient intramuscular depot therapy. In addition, when compared to solution dosage forms, relatively higher concentration of drugs can be incorporated into suspension products. At present, many drug formulations are available as suspensions, such as:

- ✓ oral antacid suspensions;
- ✓ oral antibacterial suspensions;
- ✓ oral analgesic suspensions;
- ✓ oral antifungal suspension;
- ✓ dry antibiotic powders for oral suspensions preparation;
- ✓ topical lotions etc.

The pharmacy suspensions making requires the special attention.

One of the characteristic features of suspensions is their ability to settle. That's why the stability is one of the important requirements to them. There are the sedimentary and aggregational suspension stability. Sedimentary stability prevents the particles from sedimentation due to their size. Suspensions stability will be the more, the less is the radius of dispersive phase. So, the grinding process is the important technological operation at suspensions preparing, which ables to disperse the solid drug particles as thin, as possible. Suspension stability depends on the ratio of dispersed particles in dispersive phase with dispersive environment. The denser the dispersive phase is, the faster the particles settle; when the density is lower, they surf faster. When the densities are near the equal index, the suspension is the most stable. The suspensions sedimentation obtains two different variants. At first, the particles settle separately, without connection with each other. The settlement is slower. This dispersive system is classified as aggregatively stable. But we can have another accident, when the solid suspension particles coagulate under the action of molecular gravity forces and sediment in the whole flakes form. Those systems are aggregatively unstable.

In accordance with the requirements of SPU, oral liquid medicines (suspensions) are controlled by the following parameters: description, identification, homogeneity, content of the container, microbiological purity, quantitative determination. If necessary, the particle size, pH, admixture, tightness of the container are controlled also. The aggregational stability of the oral suspension was studied in accordance with generally accepted methods.

Based on the obtained results a project of analytical normative documentation that regulates the quality of the oral suspension have been developed.

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**THE URGENCY OF MEDICINES CREATION BASED ON PLANT RAW MATERIALS**

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During all periods of development of the pharmaceutical market, the interest of scientific medicine to medicinal plants as a source of raw materials for the production of effective and safe medicines has not diminished. In our country, in recent years, not only has the number of producers involved in the production of medicinal plant raw materials increased, but also increased the number of consumers who use herbal medicines as a more mild, safe and complex treatment.

The pharmaceutical market is a dynamic sector of the world economy, which is explained by the growth of its capacity, the rapid expansion of the range and the low elasticity of demand for medicines. For specialists in the pharmaceutical profile, knowledge of the specific conditions for