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USING OF ALUMINOSILICATES FOR REDUCE THE TOXIC EFFECTS OF XENOBIOTICS IN ORGANISM OF ANIMALS

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The effect of xenobiotics (heavy metals) on a living organism is a powerful stress factor that exists in the environment. The increasing level of anthropogenic environmental pollution and effective means to reduce the negative impact of xenobiotics on animal and human health is an urgent problem today. A large number of various xenobiotics, including heavy metals, that enter the environment require research to establish their impact on the biota and find ways and means to reduce the negative impact on animal and human health. Sorbents should be safe and effective, which would make it possible for regular prophylactic use.

Smectite aluminosilicates have adsorption properties. From the point of view of biological action, smectites have high specific activity against intestinal viruses of various taxonomic groups, bacteria, and also selectively bind heavy metal ions and other xenobiotics from the aquatic environment and biological fluids. Their widespread use as a feed additive is known. Trioctahedral smectites of the Tashkivsky deposit, which in the Khmelnytsky region contain a unique natural raw material – trioctahedral smectite - saponite. Saponites are "ecologically clean" clays that contain biologically active trace elements as isomorphic impurities. Saponite has a high cation capacity and a large adsorption potential due to the presence in its composition of a montmorillonite complex, which is half represented by the magnesium variety of the iron-containing mineral nontronite, and other compounds.

The aim of our work was to analyze the possibility of obtaining preparations based on natural smectites, in particular saponites as adsorbents for xenobiotics.

Saponites were subjected to preliminary preparation, and then the content of individual chemical elements, mineral composition, as well as adsorption indicators and cation exchange capacity were analytically

determined. Numerous studies have determined the chemical, trace element composition and exchange capacity of cations of smectites - saponites. The high iron content in the studied smectites opens up prospects for their use as magnetically controlled nanosorbents to solve specific tasks in detoxification of the organism. In the intestines, saponites actively adsorb pathogens of intestinal infections, bind metabolic products, saponites are able to selectively remove xenobiotics from the organism.

Thus, the use of saponites allows their "ecological purity" and rich mineral composition. After acid activation, such saponites have a fairly high content of surface acid centers, which determines their cationic activity. In general, this gives saponites from the smectite group versatility and opens up broad prospects for their use in veterinary and human medicine - as a substance for the manufacture of efferent drugs, as a mineral additive to animal feed, in crop production to increase soil fertility, and also for environmental protection - the development of technologies for the purification and disinfection of water of various degrees of pollution.

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СКЛАД ЖИРНИХ КИСЛОТ М'ЯЗІВ КАРАСЯ ТА ЩУКИ ЗА ДІЇ СУБЛЕТАЛЬНИХ КОНЦЕНТРАЦІЙ ІОНІВ КОБАЛЬТУ

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Забруднення прісноводних екосистем важкими металами є однією з найгостріших проблем сучасності. Пов'язані з цим екологічні ризики масштабуються внаслідок властивої важким металам здатності до біоакумуляції та біомагніфікації у водних трофічних ланцюгах, що призводить до зниження якості рибної продукції [1].

Кобальт відіграє роль життєво важливого біологічного