STUDY OF ACUTE TOXICITY OF THE SAMPLE "SILICON POWER NANOSILICON" BASED ON SILICON NANOPARTICLES

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Relevance: In recent years, despite significant advances in the field of creating synthetic drugs, many of which, unfortunately, are characterized by the presence of side effects and have contraindications to application, substances of natural origin remain one of the promising sources for obtaining new, highly effective drugs for the prevention and complex therapy of destructive lesions of the stomach and intestines.

The aim of the study: to study the acute toxicity of the additive "Power of Silicon Nanosilicon" based on silicon nanoparticles.

Materials and methods: The acute toxicity of the test sample "Sila kremniya nanosilicon", "Sila kremniya ECO" FE Ltd., Uzbekistan, was studied using the generally accepted method described in the literature, a single administration of the drug with the determination of LD50 and toxicity class. For the experiments, 30 white outbred mice, males and females, weighing 19-21 g, were used, quarantined for 14 days. Before and during the experiments, the mice were kept in a vivarium at a temperature of 20-22^{0}C, humidity no more than 50%, air exchange volume (exhaust: inflow) - 8:10, in the light mode - day - night. The mice were placed in standard plastic cages and kept on a standard diet.

Results: The results of the conducted studies to determine the acute toxicity of the sample "Sila kremniya nanosilicon", "Sila kremniya ECO" FE Ltd., Uzbekistan, showed that after oral administration of the sample, a number of symptoms of intoxication, changes in the general condition and other effects characterizing the toxic effect of the drug were observed.

Determination of acute toxicity indices was impossible due to the absence of animal deaths after oral administration of the sample "Sila kremniya nanosilicon", "Sila kremniya ECO", FE Ltd., Uzbekistan. This indicates the absence of toxicity in the dose range of 1250-5000 mg/kg, therefore the estimated LD50 is >5000 mg/kg.

According to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), this sample is classified as toxicity class 5 or practically non-toxic when administered orally.

Results of the study of acute toxicity indices of the sample

"Sila kremniya nanosilicon", "Sila kremniya ECO" FE Ltd., Uzbekistan,	
Doses mg/kg	Number of mice dead/total
1250 mg/kg	0/6
2500 mg/kg	0/6
5000 mg/kg	0/6

Conclusions: The test sample "Sila kremniya nanosilicon", "Sila kremniya ECO", FE Ltd., Uzbekistan does not exhibit acute toxicity when administered orally in the dose range of 1250-5000 mg/kg and even at maximum doses does not lead to the death of the test animals.