

## **Composite materials on the base of zeolite, clay minerals and highly dispersed silica**

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Natural aluminosilicates are perspective materials for using in different fields. Structure of these materials as well as variety of active sites makes the special properties connected with adsorptivity and possibilities of forming complex composite systems. That is why using them as adsorbents, “containers” for culture media and recurparation of soils needs researches in structure formation of multicomponent systems. Here afterwards the obtained results will contribute to determination of optimal mass transfer of components in dependence on functional purpose of composite material.

The aim of the research was directed to creation of highly function material being the support of BAS (bioactive substance) on the base of natural silicates of alumina and highly dispersed silica, A300, formulation of secondary porosity of composites in dependence on the nature of introduce clay and relation between zeolite and clay, study of BAS delivery from obtained samples.

The kinetics of BAS release is controlled by the chemical nature of the surface and by the porosity of the carrier. Changing porosity and the surface area by using of aluminosilicate matrixes of different structures as carriers allows controlling the release of BAS, prolonging the term of their effective using. In addition to that fact these carriers allow to transport BAS. They have biocompatibility and bioavailability without causing allergic reaction.

Thus, the composite materials of clay / clinoptiolite / silica / vegetable raw materials, where the nature of the inorganic component and the presence / absence of solvent are varied, have been obtained. The dependence of BAS allocation on the structure and composition of the synthesized composite has been established.