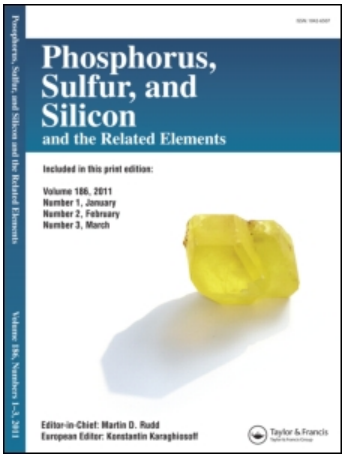

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Porous Phosphates of Trivalent Metals: Problems of Their Synthesis and Application

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POROUS PHOSPHATES OF TRIVALENT METALS: PROBLEMS OF THEIR SYNTHESIS AND APPLICATION

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Porous phosphates are compounds with a branched system of pores, such as X-ray amorphous xerogels of metalphosphates and crystalline phosphates of zeolite type. Having generalized extensive experimental data about the conditions of Al-, Fe-, Cr-, Ga-, In-, Y-phosphate hydrogels synthesis we found the influence of a number of factors on the rates of their formation, stability of structures and the porosity character of xerogels. The mechanism of porous structure formation of xerogels of metalphosphates has been proposed. The problems connected with the regulation of porous structure of xerogels have been discussed. The formation of porous crystalline aluminophosphates of zeolite type has been accomplished through a number of stages. The nature of alkyl ammonium bases influences the direction of the crystallization process and the type of the structure. It was noted that the stoppind of crystallization on different stages of synthesis gives the possibility to obtain new molecular sieves. Thermal changes and sorption properties of aluminophosphates of zeolite type have been studied. During the process of removing organic cations the formation of secondary porosity was established. The effectiveness of applying porous metalphosphates in catalysis and adsorption processes has been showed.