

Technology sulfides silicates and composite materials with application of activators of aluminum chloride

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Abstract

The efficiency of technology of inorganic substances on the basis of silicates in the preparation of sulfides sulfur composites. High mechanical properties obtained are due to the chemical interaction of the samples with sulfur chloride, aluminum fixed on the surface of silica-containing material. The results of quantum-chemical studies were confirmed by the study of physical and mechanical properties of the materials and methods of physicochemical analysis (IR spectroscopy, thermogravimetry, X-ray, by electron paramagnetic resonance and petrography). The materials developed can be used in the construction of industrial, agricultural, storage facilities, during the operation of which are increased requirements for resistance to aggressive environments, frost and weather resistance, impermeability. Increased use of sulfur is largely due to the decision of the environmental problem of waste disposal industry, on the one hand, and significantly reduces the cost of the process of obtaining resistant and durable materials.