

## SYNTHETIC ZEOLITES MODIFIED WITH SALTS OF TRANSITION METALS IN THE REACTION OF CHEMISORPTION-CATALYTIC OXIDATION OF SULFUR DIOXIDE BY AIR OXYGEN

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**Abstract.** The effect of the nature and concentration of d-metal salts attached to synthetic zeolites NaA and KA on the kinetic and stoichiometric parameters of the chemisorption-catalytic oxidation of sulfur dioxide with air oxygen at ambient temperature was studied. It was found that the adsorption capacity of NaA zeolite relative to SO<sub>2</sub> is 100 times higher than that of KA zeolite; the time of protective action of NaA and KA zeolites increases upon modification with transition metal salts and with an increase of their content in the compositions. It was shown that the formation of inner and outer sphere complexes and the relationship between them is determined by the nature and concentration of metal ions and by the nature of the carrier. It was proven that the chemisorption-catalytic process ends with the oxidation of SO<sub>2</sub> to sulfuric acid.

**Keywords:** sulfur dioxide, synthetic zeolite, oxidation, chemisorption-catalytic process, transition metal.