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Study of physic-chemical properties and catalytic activity of natural iron oxohydroxide

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Abstract

The paper discusses the iron oxohydroxides, forming the basis of sludge waste water treatment plants with clean water from the iron as a catalyst for the oxidation of cumene with molecular oxygen. It was established by XFA and HRTEM that the main phase in samples annealed up to 300 °C is an amorphous phase with a small amount of crystal structures and just such a pattern is the catalyst of the oxidation process. It is shown that heating of the iron oxohydroxide above 300 °C promotes the formation of crystalline structures, are not active in the oxidation reaction.