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Effect of heat-treatment conditions on the formation of polyferrite phases from an iron-oxide-based dehydrogenation catalyst

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Abstract

The formation of polyferrites from an iron-oxide-based catalyst under various heat-treatment conditions has been studied by thermal analysis and x-ray diffraction. Promoters are shown to influence the aggregation of secondary particles and the recrystallization temperature of the ferric oxide. Mechanisms are proposed for potassium polyferrite formation at high and low heating rates. The effect of heat-treatment temperature on the potassium ferrite and iron oxide contents of the catalyst is analyzed. © 2008 MAIK.

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