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SELF-BONDED ETS-10 PELLETS CONTAINING IRON

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Abstract

In this work the experimental conditions to synthesize, by direct hydrothermal synthesis, self-bonded pellets of ETS-10 phase containing iron were studied.
The following gel composition was used: xNa_2O-0.6KF-1.28xHCl-yFe_2O_3-0.2TiO_2-1.49SiO_2-39.5H_2O with $0.8 \leq x \leq 1.4$ and $0.015 \leq y \leq 0.08$.
The products obtained were characterized through X-ray diffraction on powders (XRD), thermal analysis (TG, DSC, DTG), scanning electron microscopy (SEM) and microanalysis (EDS). The data obtained showed that it is possible to obtain highly crystalline self-bonded ETS-10-pellets containing iron and with good mechanical resistance.

Key words: ETS-10, microporous materials, self-bonded pellets, titanium silicate

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