

Synthesis and characterization of titanium silicate-2

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Abstract: Titanium silicate-2 (TS-2) is synthesized in the presence of different amounts of methylamine. The as-synthesized samples were characterized using IR, DRS UV and SEM techniques. The effect of hydrogen fluoride and methylamine on the synthesis is studied. Results showed that the TS-2 crystallinity and titanium content in the framework increase with addition of both hydrogen fluoride and methylamine to the gel mixture, respectively. It seems that the methylamine plays an important role to promote formation of Si-O-Ti oligomeric species. But, hydrogen fluoride improves the crystallinity of the product via increasing the solubilities of the oligomers in the gel.

Keywords: *Titanium silicate-2, TS-2, Synthesis, Characterization.*