[0005] The M41S family mesoporous molecular sieves are often prepared from aqueous reaction mixtures (synthesis mixtures) comprising sources of appropriate oxides. Organic agents, such as surfactant(s), are also generally included in the synthesis mixture for the purpose of influencing the production of the M41S family mesoporous molecular sieves having the desired structure and channel size. After the components of the synthesis mixture are properly mixed with one another, the synthesis mixture is subjected to appropriate crystallization conditions in an autoclave. Such conditions usually involve heating of the synthesis mixture to an elevated temperature possibly with stirring. After crystallization is complete, the crystalline product is recovered from the remainder of the synthesis mixture, typically by filtering the crystals and then washing the crystals with water to remove the mother liquor and other residual synthesis mixture components. The crystals are then normally dried and subjected to high temperature calcination, e.g., at 540°C, particularly to remove any organic agent which may otherwise block the pores of the molecular sieve.

[0006] The process of synthesizing the M41S family mesoporous molecular sieve utilizes expensive organic surfactants. Moreover, significants costs are incurred for disposal of surfactant-containing wastewater generated in the crystallization, filtration, and washing. Thus a need exists for a more efficient and cost-effective process of manufacturing M41S family molecular sieves which reduces both the amount of water used and wastewater produced. This disclosure provides a process of manufacturing M41S family molecular sieves from forming mixtures of high solids content, using a reactor having a high intensity mixer. The process does not require filtering the reaction mixture after crystallization or washing the molecular sieve product before calcinations. Accordingly, the process combines the advantages of reduced cost, shorter crystallization time and higher yield with the minimization of wastewater generated during the molecular sieve manufacture.

[0007] U.S. Patent Application No. 60/899,785, filed February 6, 2007 (priority claimed in WO2008/097481, dated August 14, 2008), relates to a method for synthesizing a mesoporous molecular sieve composition, in which at least a portion of the solvent or solvent mixture in the reaction mixture comprises wastewater from processing of the mesoporous molecular sieve made in previous synthesis batches, e.g., the mother liquor(s), the washing liquid(s), the cleaning liquid(s), and any combination thereof.

[0008] U.S. Patent Application Publication No. 2010/0280290 relates to a method of making M41S materials using synthesis mixture having high solids content and reducing

15. A process for hydrofinishing a lubricant base stock comprising contacting the base stock under hydrofinishing conditions with a catalyst comprising a molecular sieve material produced by the process of ~~claim 1~~ any one of claims 1-14.