

ZSM-5, ITS PREPARATION AND USE IN ETHYLBENZENE DEALKYLATION

Abstract

A new configuration of ZSM-5 is provided whereby the crystals have a higher average silica to alumina ratio at the edges of each crystallite than in the centre as determined from a narrow slit line scan profile obtained from SEM/EDX or TEM/EDX elemental analysis. Such ZSM-5 crystals are obtained by a preparation process using L-tartaric acid. The new configuration ZSM-5 provides significantly reduced xylene losses in ethylbenzene dealkylation, especially when combined with silica as binder, and one or more hydrogenation metals selected from platinum, tin, lead, silver, copper, and nickel. Further advantages are found if used in combination with a small crystal size ZSM-5.

Figure 1