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(54) Title: METALLO ALUMINOPHOSPHATE MOLECULAR SIEVE WITH CUBIC CRYSTAL MORPHOLOGY AND METHANOL TO OLEFIN PROCESS USING THE SIEVE

(57) Abstract: A catalyst for converting methanol to light olefins along with the process itself are disclosed and claimed. The catalyst is a metalloaluminophosphate molecular sieve having the empirical formula $(EL_xAl_yP_z)O_2$ where EL is a metal such as silicon or magnesium and x, y and z are the mole fractions of EL, Al and P respectively. The molecular sieve has predominantly a plate crystal morphology in which the average smallest crystal dimension is at least 0.1 microns and has an aspect ratio of no greater than 5. Use of this catalyst gives a product with a larger amount of ethylene versus propylene.



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