

**HIGH METAL CONTENT MOLECULAR SIEVES AND THEIR
MANUFACTURE**

ABSTRACT

A process for manufacturing a synthetic porous crystalline molecular sieve requires an aqueous reaction mixture comprising a source of X_2O_3 (X is a trivalent element), a source of YO_2 (Y is a tetravalent element) and a source of MOH (M is an alkali metal). The H_2O/MOH molar ratio is within the range of 70 to 126 and the source of X_2O_3 and YO_2 is an amorphous material containing both X_2O_3 and YO_2 and having YO_2/X_2O_3 molar ratio of 15 or less. The molecular sieve products are useful as catalysts and/or absorbents. Such molecular sieves having MFI structure type, TON structure type or the structure type of zeolite beta and a composition involving the molar relationship (n) $YO_2:X_2O_3$ wherein n is from 2 to less than 15 are novel compositions of matter.