

Abstract

PREPARATION OF SILICON-ALUMINUM CATALYSTS AND
OF TERTIARY OLEFINS BY MEANS OF THE CATALYSTS

To prepare a silicon-alumina catalyst (a) silica-alumina, e.g. as pellets, preferably previously calcined at 700-1200°C, is soaked in an aqueous solution of a hydroxide, or a weak acid salt of an alkali metal (Na,K) or an alkaline earth metal (Mg) whilst the pH is kept at 7-11 (preferably 7-10) so that the solution permeates the Si-Al solids; or

(b) silica, e.g. as pellets, is soaked in an aqueous solution of an aluminum salt or Si powder is mixed with an Al salt, and the Al salt thus supported on Si is heated at a temperature, e.g. 100-1200°C, below the decomposition temperature of the salt, and the product is contacted with an aqueous solution as defined above, preferably by soaking the SiAl carrier in the solution at a pH of 7 to 11 so that the solution permeates the carrier.

A gaseous tert-alkyl (C1-4) ether is contacted with the catalyst thus prepared at 100-400°C, optionally with addition of steam, so as to provide a tert-olefin, in good yield and with low by-product formation.