

Continuous preparation of polyamides from aminonitriles

Abstract

5

The continuous process for preparing a polyamide by reacting at least one aminonitrile with water comprises:

- (1) reacting at least one aminonitrile with water in the presence
10 of an organic liquid diluent at from 90 to 400°C and from 0.1 to 35×10^6 Pa in a flow tube containing a Brönsted acid catalyst selected from a beta-zeolite catalyst, a sheet-silicate catalyst or a titanium dioxide catalyst comprising from 70 to 100% by weight of anatase and from 0 to
15 30% by weight of rutile and in which up to 40% by weight of the titanium dioxide may be replaced by tungsten oxide, to obtain a reaction mixture,
- (2) further reacting the reaction mixture at from 150 to 400°C
20 and a pressure which is lower than the pressure in stage 1 in the presence of a Brönsted acid catalyst selected from a beta-zeolite catalyst, a sheet-silicate catalyst or a titanium dioxide catalyst comprising from 70 to 100% by weight of anatase and from 0 to 30% by weight of rutile and
25 in which up to 40% by weight of the titanium dioxide may be replaced by tungsten oxide, the temperature and pressure being selected so as to obtain a first gas phase and a first liquid phase or a first solid phase or a mixture of first solid and first liquid phases and so that the first gas phase
30 is separated from the first liquid phase or first solid phase or from the mixture of first liquid and first solid phases, and
- (3) admixing the first liquid or the first solid phase or the
35 mixture of first liquid and first solid phases with a gaseous or liquid phase comprising water at from 150 to 370°C and from 0.1 to 30×10^6 Pa, to obtain a product mixture.

40



162162

45



G00002