

Continuous purification of crude caprolactam prepared from 6-aminocapronitrile

5 Abstract

Crude capronitrile is purified by hydrogenation, subsequent treatment in an acidic medium and subsequent distillation in an alkaline medium, by a process in which

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(a) 6-aminocapronitrile is converted into crude caprolactam by reaction with water,

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(b) high boilers and low boilers are separated off from the crude caprolactam from step (a),

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(c) the crude caprolactam from step (b) is treated with hydrogen at from 50 to 150°C and from 1.5 to 250 bar in the presence of a hydrogenation catalyst and, if desired, of a solvent to give a mixture A,

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(d1) mixture A in a solvent is passed, at from 30 to 80°C and from 1 to 5 bar, over an ion exchanger containing terminal acid groups to give a mixture B1, or

(d2) mixture A is distilled in the presence of sulfuric acid, any solvent present being removed before the addition of the sulfuric acid, to give a mixture B2, and

30 (e) mixture B1 or mixture B2 is distilled in the presence of a base to give pure caprolactam.

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