

Reducing the content of an unsaturated amine in a mixture containing an amine and a nitrile

5 Abstract

A process is provided for reducing the content of a monounsaturated aliphatic amine (III) in a mixture (IV) containing an aminonitrile (I) or a diamine (II), or mixtures thereof, and the amine (III), wherein

- a) the mixture (IV) is reacted with an anionic nucleophile (V), which contains a nucleophilic atom selected from the group comprising oxygen, nitrogen and sulfur,
- which is capable of taking up an H^+ ion to form an acid with a pK_a ranging from 7 to 11, measured in water at 25°C, and
- which has a relative nucleophilicity, measured in methyl perchlorate/methanol at 25°C, ranging from 3.4 to 4.7 when oxygen is the nucleophilic atom, ranging from 4.5 to 5.8 when nitrogen is the nucleophilic atom, and
- ranging from 5.5 to 6.8 when sulfur is the nucleophilic atom, in an amount ranging from 0.01 to 10 mol per mole of amine (III) in the mixture (IV), to give a mixture (VI), and
- b) the aminonitrile (I) or the diamine (II), or mixtures thereof, are distilled from the mixture (VI) at a temperature ranging from 50 to 170°C and a pressure ranging from 0.5 to 100 kPa.



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