

Preparation of aliphatic alpha,omega-aminonitriles

Abstract

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Aliphatic alpha,omega-aminonitriles are prepared by partial hydrogenation of aliphatic alpha,omega-dinitriles at elevated temperatures and superatmospheric pressure in the presence of a solvent and of a catalyst by a process which comprises using a

10 catalyst which

(a) contains a compound based on a metal selected from the group consisting of nickel, cobalt, iron, ruthenium and rhodium and

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(b) contains from 0.01 to 25% by weight, based on (a), of a promoter based on a metal selected from the group consisting of palladium, platinum, iridium, osmium, copper, silver, gold, chromium, molybdenum, tungsten, manganese, rhenium, zinc, cadmium, lead, aluminum, tin, phosphorus, arsenic, antimony, bismuth, silicon, titanium, zirconium and rare earth metals and

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(c) from 0 to 5% by weight, based on (a), of a compound based on an alkali metal or on an alkaline earth metal,

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with the proviso that the component (a) is not based on iron or iron and one of the metals selected from the group consisting of cobalt, ruthenium and rhodium when (b) is a promoter based on a metal selected from the group consisting of titanium, manganese, chromium and molybdenum, and with the further proviso that, when a compound based on only ruthenium or rhodium or ruthenium and rhodium or nickel and rhodium is selected as component (a), the promoter (b) may be dispensed with.

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