b) the reactant composition provided in step a) is fed into at least one polymerization zone and subjected to a polymerization at a temperature of 150 to 290°C and, at least at the start of the polymerization, at an absolute pressure of at least 5 bar,

c) withdrawing a water-containing gas phase from the polymerization zone in the course of the polymerization,

with the proviso that the diamine component B) is used in the reactant composition with a stoichiometric excess of 300 to 650 meq/kg, and if in the course of the polymerization, a portion of the diamine component is discharged from the polymerization zone together with the water-containing gas phase, the excess of the diamine component B) in the reactant composition must be correspondingly higher and the difference between the stoichiometric excess of the diamine component B) in the reactant composition and the portion of the diamine component B) discharged from the polymerization zone together with the water-containing gas phase is in the range from 10 to 600 meq/kg.

The disclosure further provides a semiaromatic polyamide obtainable by a process as defined above and hereinafter.

The disclosure further provides a polyamide molding composition comprising at least one polyamide, obtainable by a process as defined above and hereinafter. The disclosure further provides a molding produced from such a polyamide molding composition as defined above and hereinafter.

The disclosure further provides for the use of a semiaromatic polyamide, or of a molding composition as defined above and hereinafter, for production of electrical and electronic components and for high-temperature automotive applications.

10. The process according to any of the preceding claims, wherein the semiaromatic polyamide obtained has a polydispersity PD of not more than 3.0, preferably of not more than 2.5.

11. The process according to any of the preceding claims, wherein the semiaromatic polyamide obtained has a quotient of number-average molecular weight $M_n$ to PD of at least 7000, preferably of at least 7500.