

Title (en)

POLYURETHANE BINDING AGENTS HAVING A LOW CONTENT OF HIGHLY VOLATILE MONOMERS

Title (de)

POLYURETHANBINDEMITTEL MIT EINEM NIEDRIGEN GEHALT AN LEICHTFLÜCHTIGEN MONOMEREN

Title (fr)

LIANTS POLYURETHANES A FAIBLE TENEUR EN MONOMERES VOLATILS

Publication

**EP 1030869 A1 20000830 (DE)**

Application

**EP 98963418 A 19981106**

Priority

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Abstract (en)

[origin: DE19851182A1] A polyurethane binder with a low volatile monomer content, containing a prepolymer with at least two isocyanate groups of different reactivity and a polyfunctional isocyanate with a lower mol. wt. than the prepolymer, in which the isocyanate groups are more reactive than the less reactive isocyanate groups in the prepolymer. A polyurethane binder with a low content of volatile isocyanate (NCO) monomer, comprising components (A) and (B), in which the isocyanate component (B) consists of: (a) polyurethane prepolymer(s) with at least two differently-bonded NCO groups, one of which is less reactive than the other; and (b) an at least difunctional isocyanate with a mol. wt. lower than that of the prepolymers in (a), in which the NCO groups are more reactive towards NCO-reactive compounds than the less reactive of the two types of NCO groups in (a). Independent claims are included for: (i) a process for the production of low-viscosity, NCO-containing polyurethane binders, comprising (c) production of a polyurethane prepolymer (C) from an at least difunctional isocyanate and polyol component(s) and (d) reacting another at least difunctional isocyanate (or another such isocyanate and another polyol component) in presence of the prepolymer, so that most of the NCO groups at the end of stage (c) are less reactive towards hydroxyl (OH) groups than the NCO groups in the isocyanate added in stage (d), and the OH:NCO ratio in stage (d) is 0.2-0.6; (ii) a process for the production of low-viscosity NCO-containing polyurethane binders with a low content of NCO monomer by mixing components (C), (D) and (E), in which (C) is obtained as above, (D) is another NCO- containing prepolymer obtained by reacting polyol with another polyfunctional isocyanate with NCO groups more reactive than those in (C), and (E) is a polyfunctional isocyanate with a mol. wt. lower than (C) and (D), in which the NCO groups are more reactive than those in (C), and in which the amount of (E) is such that at least 5 (preferably at least 10) wt% (E) is in the binder after mixing and after all reactions between the components; and (iii) an adhesive composition containing (F) an NCO-containing polyurethane binder as above and (G) compound(s) with a mol. wt. of up to 2500 containing at least two NCO-reactive functional groups.

IPC 1-7

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IPC 8 full level

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CPC (source: EP KR)

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