Title (en)

POLYMERIZATES THAT CAN BE PRODUCED BY THE EMULSION POLYMERIZATION OF FUNCTIONALIZED POLYURETHANE NANOPARTICLES AND RADICALLY CURABLE MONOMERS, A METHOD FOR THE PRODUCTION OF SAID POLYMERIZATES, AND USE OF SAID POLYMERIZATES

Title (de)

POLYMERISATE, DIE DURCH EMULSIONSPOLYMERISATION VON FUNKTIONALISIERTEN POLYURETHAN-NANOPARTIKELN UND RADIKALISCH HÄRTBAREN MONOMEREN HERSTELLBAR SIND, EIN VERFAHREN ZUR DEREN HERSTELLUNG SOWIE DEREN VERWENDUNG

Title (fr)

POLYMÈRES POUVANT ÊTRE OBTENUS PAR POLYMÉRISATION EN ÉMULSION DE NANOPARTICULES DE POLYURÉTHANE FONCTIONNALISÉES ET DE MONOMÈRES DURCISSABLES PAR VOIE RADICALAIRE, PROCÉDÉ DE PRÉPARATION CORRESPONDANT ET UTILISATION

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Application

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Abstract (en)

[origin: WO2013156486A1] The invention relates to polymerizates that can be obtained by a) reacting at least one polyisocyanate with at least one polyol and optionally at least one radically curable monomer A with groups reactive toward isocyanate in at least one radically curable monomer B to form polyurethane particles having an average diameter of less than 40 nm, preferably less than 20 nm, and especially preferably less than 10 nm and an average number of radically curable functionalities in a range of 2 to 4, preferably 2 to 3, and b) emulsion polymerizing the product obtained under a). By means of the emulsion polymerization, larger cross-linked polyurethane/polymer hybrid dispersions are produced, in which the nanoparticles act as a connecting member between the polymer areas and the polyurethane components. This structure results in improved chemical resistance and significantly improved mechanical properties in comparison with traditional polyurethane dispersions, in which polyurethane nanoparticles are subsequently dispersed in polyacrylates, for example by means of an acetone method. Furthermore, the content of polyurethane in the polymer can be better controlled by means of this production method. The invention further relates to a method for producing such polymerizates and the use of such polymerizates as adhesives or coatings, in particular for textiles, or as paints, or for films and foils.

IPC 8 full level

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Citation (search report)

See references of WO 2013156486A1

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