

Title (en)
METHOD FOR THE PRODUCTION OF POLYURETHANE COMPOSITIONS WITH A LOW ISOCYANATE MONOMER CONTENT

Title (de)
VERFAHREN ZUR HERSTELLUNG VON POLYURETHANZUSAMMENSETZUNGEN MIT NIEDRIGEM ISOCYANAT-MONOMERGEHALT

Title (fr)
PROCÉDÉ DE PRODUCTION DE COMPOSITIONS DE POLYURÉTHANE À FAIBLE TENEUR EN MONOMÈRE ISOCYANATE

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Application
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Abstract (en)
[origin: EP1975187A1] Preparing polyurethane composition with less content of monomer diisocyanate, comprises: reacting at least a polyurethane polymer exhibiting isocyanate groups with at least a compound (B) carrying an active hydrogen, with the condition that the ratio of the isocyanate groups of the polyurethane polymers and the sum of the blocked amino groups and the groups carrying an active hydrogen of the compound (B) shows a value of ≥ 1 . Preparing polyurethane composition with a less content of monomer diisocyanate, comprises: reacting at least a polyurethane polymer exhibiting isocyanate groups with at least a compound (B) carrying an active hydrogen, with the condition that the ratio of the isocyanate groups of the polyurethane polymers and the sum of the blocked amino groups and the groups carrying an active hydrogen of the compound (B) shows a value of ≥ 1 , where the compound (B) shows: a group carrying an active hydrogen, which shows a hydroxyl group or a mercapto group or a secondary amino group; and at least a blocked amino group, which is aldimine groups of formula $(-N=CH-C(Z\ 1>)(Z\ 2>)-(Z\ 3>))$ and $(-N=CH-Z\ 4>)$. Either Z 1>, Z 2>H or 1-12C univalent hydrocarbon; or Z 1>Z 2>4-20C bivalent hydrocarbon, whose one part is optionally substituted by 5-8, preferably 6C carbocyclic rings; Z 3>H or alkyl, cyclo-alkyl, alkylene or cyclo-alkylene or an optionally substituted aryl or aryl-alkyl group or an oxy compound of formula O-R 2>, carbonyl compound of formula O-C(=O)-R 2>, C(=O)-O-R 2>, -C(=O)-R 2> or an oxy compound of formula -CH(R 3>)-O-R 4>; R 2>aryl, aryl-alkyl or alkyl (all optionally substituted); R 3>H (preferred), alkyl or aryl-alkyl (preferably with 1-12C); R 4>1-30C hydrocarbon, which contains optionally ether oxygen atoms or a carbonyl compound of formula (-C(=O)-R 5>); R 5>H or 1-5C hydrocarbon; Z 4>an optionally substituted aryl or hetero-aryl-group, which shows a ring size of 5 to 8, preferably 6 atoms or a carbonyl compound of formula (C(=O)-R 6>) or an optionally substituted alkenyl or aryl-alkenyl group with at least 6 carbon atoms; and R 6>H or alkoxy group. Independent claims are included for: (1) a composition with a content of monomer diisocyanate of = 1 wt.%, preferably of = 5 wt.%, related to the moisture reactive components of the composition, where the composition is produced by the above method; (2) gluing a substrate (S1) with a substrate (S2), comprising either (i) applying the composition on the substrate (S1), (ii) contacting the applied composition with the substrate (S2) within the open time of the composition, or (i) applying the composition on a substrate (S1) and on the substrate (S2) and contacting the applied composition with one another within the open time of the composition, where the substrate (S2) consists of the same or a different material like the substrate (S1); (3) procedure for sealing, comprising applying the composition between a substrate (S1) and a substrate (S2) so that the composition with the substrate (S1) and the substrate (S2) is contacted, where the substrate (S2) consists of the same or a different material like the substrate (S1); (4) procedure for coating a substrate (S1) comprising applying the composition on a substrate within the open time of the composition; and (5) an article, which is glued, sealed or coated according to the above method.

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