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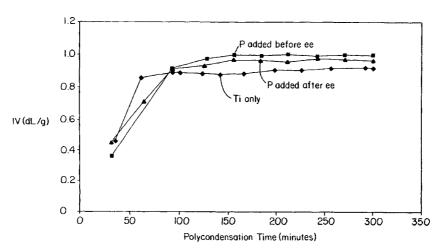
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(54) Title: PROCESS FOR PRODUCING POLY(1,4-CYCLOHEXYLENEDIMETHYLENE 1,4-CYCLOHEXANEDICAR-BOXYLATE) AND THE REACTOR GRADE POLYESTER THEREFROM



(57) Abstract: In a process for producing a reactor grade polyester, a poly(1,4-cyclohexylenedimethylene 1,4-cyclohexanedicarboxylate) has a reduced amount of isomerization of the trans-isomer to the cis-isomer of 1,4-dimethylcyclohexanedicarboxylate and an increased polymerization rate by the addition of a phosphorus-containing compound to the reaction process. In step (a) of the process, a diacid comprising at least 80 mole percent 1,4-cyclohexanedicarboxylic acid or an ester derivative of the diacid comprising at least 80 mole percent 1,4-dimethylcyclohexanedicarboxylate is reacted with a glycol comprising at least 80 mole percent 1,4-cyclohexanedimethanol at a temperature sufficient to effect esterification for the diacid or transesterification for the ester derivative. In step (b), the product of step (a) is subjected to temperature and pressures in the presence of a suitable catalyst to effect polycondensation. Phosphorus in an amount of 1 to 800 ppm is added in the form of a phosphorus-containing compound during the process.





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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C08G63/199 C08G C08G63/82 C08G63/78 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 C08G Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal C. DOCUMENTS CONSIDERED TO BE RELEVANT Category ° Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. Α US 5 986 040 A (PATEL BIMAL R ET AL) 1 - 3816 November 1999 (1999-11-16) cited in the application claims 1-37 Α US 5 681 918 A (ADAMS VALERIE SUE ET AL) 1 - 3828 October 1997 (1997-10-28) column 3, line 54 - line 60; claim 1 Α US 5 231 218 A (SUMNER JR CHARLES E ET AL) 27 July 1993 (1993-07-27) cited in the application Α US 6 084 055 A (JANG TAESEOK ET AL) 4 July 2000 (2000-07-04) Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-"O" document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled in the art. *P* document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 9 April 2002 19/04/2002 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016 Decocker, L

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