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(54) Title: POLYETHER POLYOLS, POLYESTER POLYOLS AND POLYURETHANES OF LOW RESIDUAL ALDEHYDE CONTENT

(57) Abstract: The present invention describes a process for preventing the formation of aldehydic contaminants in polyether polyols, polyester polyols or polyurethanes which comprises incorporating into said polyether polyols, polyester polyols or polyurethanes an effective amount of a) a phenolic antioxidant, b) one or more compounds selected from (i) aminic antioxidants, (ii) benzofuran-2-ones, and (iii) phosphites or phosphonites, or (iv) mixtures thereof.



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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2006/061529

A. CLASSIFICATION OF SUBJECT MATTER
INV. C08K5/00

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)
C08K

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.
X	US 4 021 385 A (AUSTIN ET AL) 3 May 1977 (1977-05-03) column 1, paragraphs 2,3 column 2, paragraphs 2,3 claim 1; examples	1-3,6,7, 10
X	EP 0 399 142 A (R.T. VANDERBILT COMPANY, INC) 28 November 1990 (1990-11-28) page 2, line 42 - line 46; claims 1-3,8; examples 4-6	1-3,5-7
X	US 3 637 865 A (ROBERT C. HARING) 25 January 1972 (1972-01-25) column 1, paragraph 1-3 column 4, paragraph 5; claims 1,17; examples	1-3,6,7

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/EP2006/061529

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4021385	A	03-05-1977	AT 352398 B	10-09-1979
			AT 986775 A	15-02-1979
			BE 837144 A1	29-06-1976
			CA 1050700 A1	13-03-1979
			CH 609363 A5	28-02-1979
			DE 2557619 A1	01-07-1976
			DK 592375 A	01-07-1976
			FR 2296663 A1	30-07-1976
			GB 1494538 A	07-12-1977
			IT 1059869 B	21-06-1982
			NL 7515126 A	02-07-1976
			SE 413514 B	02-06-1980
			SE 7514473 A	01-07-1976
EP 0399142	A	28-11-1990	CA 2008662 A1	24-11-1990
			DE 69006258 D1	10-03-1994
			DE 69006258 T2	05-05-1994
			DK 399142 T3	24-05-1994
			ES 2062124 T3	16-12-1994
			US 4933374 A	12-06-1990
US 3637865	A	25-01-1972	NONE	