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(54) Title: INBITION OF THE DEHYDROCHLORINATION REACTION OF POLYCHLORINATED ALKANES

(57) Abstract: A process is provided for the stabilization of polychlorinated alkanes against dehydrochlorination. The process comprises adding a phenol compound to a polychlorinated alkane such that the dehydrochlorination of the polychlorinated alkane is suppressed when heated in the presence of iron(III). In a preferred embodiment, the process comprises the prevention or reduction of dehydrochlorination of 1,1,1,3,3-pentachloropropane when heated in the presence of iron(III) contamination by the addition of monomethyl ether hydroquinone. In another embodiment, the long term storage stability of polychlorinated alkanes against dehydrochlorination is improved due to the addition of a phenol compound.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07C17/42 C07C19/01

CORRECTED VERSION

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 C07C

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, WPI Data, PAJ, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2 978 518 A (NESTOR DARAS) 4 April 1961 (1961-04-04) column 2; examples; table 1 column 1, line 21 - line 30 ---	1-4, 6-16, 25-28, 30-40
Y	US 2 751 421 A (STAUFFER WILLIAM O) 19 June 1956 (1956-06-19) column 2, line 14 -column 4, line 5 ---	1-4, 6-16, 25-28, 30-40
Y	US 2 008 680 A (JOHNSON CARLISLE PAUL ET AL) 23 July 1935 (1935-07-23) page 1; tables --- -/--	1-4, 6-16, 25-28, 30-40

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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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	Bedel, C

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3 852 367 A (KATSURAGAWA S ET AL) 3 December 1974 (1974-12-03) page 2 -page 3; tables ---	1-4, 6-16, 25-28, 30-40
Y	US 3 763 017 A (RENE C ET AL) 2 October 1973 (1973-10-02) claim 5; examples -----	1-4, 6-16, 25-28, 30-40

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Information on patent family members

International Application No
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2978518 A	04-04-1961	NONE	
US 2751421 A	19-06-1956	NONE	
US 2008680 A	23-07-1935	US 1904450 A	18-04-1933
		BE 386905 A	
		DE 562820 C	29-10-1932
		DE 573105 C	29-03-1933
		FR 732569 A	22-09-1932
		GB 397915 A	04-09-1933
US 3852367 A	03-12-1974	JP 49004448 B	01-02-1974
		DE 2164394 A1	13-07-1972
		FR 2119014 A1	04-08-1972
		GB 1346789 A	13-02-1974
US 3763017 A	02-10-1973	FR 2045191 A5	26-02-1971
		BE 751976 A1	15-12-1970
		CA 962700 A1	11-02-1975
		DE 2029767 A1	23-12-1970
		GB 1284367 A	09-08-1972
		NL 7008401 A	22-12-1970