



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup>:</b> <b>C07D 303/16, 301/30</b>	<b>A3</b>	<b>(11) International Publication Number:</b> <b>WO 95/23794</b> <b>(43) International Publication Date:</b> 8 September 1995 (08.09.95)
<b>(21) International Application Number:</b> PCT/US95/02623 <b>(22) International Filing Date:</b> 3 March 1995 (03.03.95) <b>(30) Priority Data:</b> 08/206,778 4 March 1994 (04.03.94) US <b>(71) Applicant:</b> NATIONAL STARCH AND CHEMICAL INVESTMENT HOLDING CORPORATION [US/US]; Suite 27, 501 Silverside Road, Wilmington, DE 19809 (US). <b>(72) Inventors:</b> SCHULTZ, Rose, Ann; Road #1, Box 431, Sunset Avenue, Princeton, NJ 08540 (US). CHAPLINSKY, Sharon; 187 Old York Road, Ringoes, NJ 08551 (US). <b>(74) Agent:</b> GENNARO, Jane; National Starch and Chemical Company, 10 Finderne Avenue, Bridgewater, NJ 08807 (US).	<b>(81) Designated States:</b> AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG). <b>Published</b> <i>With international search report.          Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> <b>(88) Date of publication of the international search report:</b> 19 October 1995 (19.10.95)	
<b>(54) Title:</b> GLYCIDYL ESTERS FOR USE IN ELECTRONICS ADHESIVES AND PROCESS FOR THEIR PREPARATION <b>(57) Abstract</b> <p>Glycidyl esters are prepared to have low chlorine, chloride, sodium and potassium contamination and a thixotropic index greater than 3.0 by a process that comprises reacting carboxylic mono- or dimer acids with glycidyl alcohols in a molar ratio of 1 to 0.9-2.0 using carbodiimide as the acylating agent and a pyridine-type catalyst. The pyridine-type catalyst is removed by strongly acidic ion exchange.</p>		

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A. CLASSIFICATION OF SUBJECT MATTER  
IPC 6 C07D303/16 C07D301/30

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 6 C07D

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP,A,0 113 858 (BAYER AG) 25 July 1984 see claims 1-3 ---	1-3
X	EP,A,0 447 360 (CIBA-GEIGY AG) 18 September 1991 see claims 1-8 ---	1-3
X	EP,A,0 008 111 (BAYER AG) 20 February 1980 see claim 1 ---	1-3
X	EP,A,0 008 112 (BAYER AG) 20 February 1980 see claim 1 ---	1-3
X	EP,A,0 028 024 (OKAMURA OIL MILL LIMITED) 6 May 1981 see claim 1 ---	1-3
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date of priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "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
- "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 documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

8 September 1995

Date of mailing of the international search report

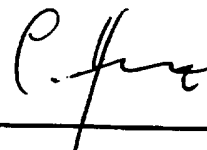
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INTERNATIONAL SEARCH REPORT

Int: ~~nal~~ Application No  
PCT/US 95/02623

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE,A,26 54 306 (CIBA-GEIGY AG) 8 June 1977 see claim 1 ---	1-3
X	DE,A,26 02 157 (CIBA-GEIGY AG) 29 July 1976 see claim 1 ---	1-3
X	US,A,5 036 154 (THE DOW CHEMICAL COMPANY) 30 July 1991 see claim 1; example 2 ---	1-3
X	KUNSTSTOFFE, vol. 58, no. 8, 1968 pages 565-571, R. KUBENS 'Cycloaliphatische Glycidylester' * entire document * ---	1-3
Y	DE,A,42 32 213 (NIPPON SHOKUBAI CO. LTD.) 8 April 1993 see page 3, line 39 - page 3, line 64; claims 1,2 ---	7
Y	DATABASE WPI Week 8024 Derwent Publications Ltd., London, GB; AN 80-42628C & JP,A,55 060 575 (OSAKA SODA K.K.) , 8 May 1980 see abstract ---	7
Y	DATABASE WPI Week 8402 Derwent Publications Ltd., London, GB; AN 84-008041 & JP,A,58 201 866 (ARAKAWA KAGAKU KOGYO) , 24 November 1983 see abstract -----	7

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 95/02623

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: 1-7  
because they relate to subject matter not required to be searched by this Authority, namely:  
The breadth of the claims is so large on account of the numerous definitions which are undefined in scope that a meaningful search was only possible on the basis of the exemplified compounds and reasonable generalisations thereof.
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/US 95/02623

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information on patent family members

International Application No

PCT/US 95/02623

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