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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

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(54) Title: EPOXIDIZED SOYATE DIESTERS AND METHODS OF USING SAME

(57) Abstract: An unhindered polyol is used to react with an epoxidized soyate to make epoxidized soyate diester in the presence of a catalyst. The unhindered polyol can be 1,3-propanediol or any polyol having four or more carbon atoms with no two adjacent carbon atoms having hydroxyl functionality. Preferably, a combination of catalysts is used to promote the transesterification reaction of the epoxidized soyate with the unhindered polyol to yield a high percentage of epoxidized soyate diester with epoxy functionality retained. The primary catalyst is a metallic hydroxide, and the secondary catalyst is a titanate. Bioderived epoxidized soyate diester plasticizers useful for thermoplastics and thermosets result.



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A. CLASSIFICATION OF SUBJECT MATTER

C07D 301/14(2006.01)i, C07D 301/03(2006.01)i, C08K 5/15(2006.01)i, C08L 27/06(2006.01)i, C07C 59/06(2006.01)i, C08J 3/18(2006.01)i

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 8 as above

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 practicable, search terms used)

eKOMPASS, Google patent, Google

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2978463 A (Kuester, F.E. et al) 4 April 1961 See col. 2 lines 4-65, col. 3 lines 15-31, lines 47-64, col.4 line 11-19, example XXIII, claims	1-4, 13-18
A	US 6797753 B2 (Benecke, H.P. et al) 28 September 2004 See abstract, example 1, claims	1-4, 13-18
A	US 5324846 A (Hirshman, J.L. et al) 28 June 1994 See the whole document	1-4, 13-18
A	US 7071343 B2 (Daute, P. et al) 4 July 2006 See the whole document	1-4, 13-18
A	US 6573354 B1 (Petrovic, Z. et al) 3 June 2003 See the whole document	1-4, 13-18

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance
 "E" earlier application or patent but published on or after the international filing date
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 "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
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 "&" document member of the same patent family

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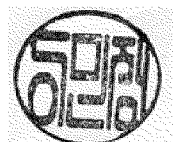
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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