Abstract: A significant disadvantage of the use of polylactic acid (PLA) has been overcome by the use of styrene maleic anhydride copolymer in combination with an epoxy functional styrene-acrylate oligomeric chain extender. The composition also often exceeds a threshold of 65°C in heat deflection temperature.
Published: 88
Date of publication of the international search report:
4 August 2011

— with international search report (Art. 21(3))
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

C08L 67/04(2006.01), C08L 25/08(2006.01), C08L 33/06(2006.01), C08K 3/22(2006.01)

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)

C08L 67/04; C08L 35/04; C08L 67/00; C08L 55/02; C08J 9/04

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(KIPO internal) & Keywords: poly(lactic acid), heat resistant, styrene-maleic anhydride copolymer, chain extender

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
<tr>
<td>PY</td>
<td>WO 2009-131903 A2 (POLYONE CORPORATION) 29 October 2009 See abstract, paragraphs [00016]-[00022], paragraphs [00026]-[00035], paragraphs [00037H00051], claims.</td>
<td>1-4,6,7,9,11-12,15-17</td>
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<td>Y</td>
<td>US 2008-0153940 A1 (SCHEER, R. et al.) 26 June 2008 See paragraph [0059], examples, claims.</td>
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<td>JP 2008-106091 A (SUMITOMO BAKELITE CO LTD) 08 May 2008 See the whole document.</td>
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<td>A</td>
<td>JP 2008-222987 A (SEKISUI PLASTICS CO LTD) 25 September 2008 See the whole document.</td>
<td>1-4,6,7,9,11-12,15-17</td>
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</table>

☐ 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
  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
  "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 or 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 15 JUNE 2011 (15.06.2011)

Date of mailing of the international search report 15 JUNE 2011 (15.06.2011)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daej on, 189 Cheongsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea
Facsimile No. 82-42-472-7140

Authorized officer
Jung Doo Young
Telephone No. 82-42-481-8699

Form PCT/ISA/210 (second sheet) (July 2009)
**Box No. II  Observations where certain claims were found unsearchable (Continuation of item 2 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.:
   because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 13, 14
   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:

   Claims 13, 14 are in reference to multiple dependent claim 5, 8, 10, which are not subjected to the meaningful search in accordance with the second and the third sentence of Rule 6.4(a).

3. ☒ Claims Nos.: 5, 8, 10
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

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**Box No. III  Observations where unity of invention is lacking (Continuation of item 3 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 and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.
<table>
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<td>US 2007-0203283 A1</td>
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