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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))*

Published:

- *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))*

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(54) Title: HEAT RESISTANT POLYLACTIC ACID COMPOUNDS

(57) Abstract: A significant disadvantage of the use of polylactic acid (PLA) has been overcome by the use of styrene maleic anhydride copolymer (SMAC) to cause an unexpected increase in the heat deflection temperature of the PLA compound, surpassing a delta improvement of 5 °C over the heat deflection temperature of the PLA alone, at 66 psi as measured using ASTM D648 when the blended compound is essentially dried prior to use. The compound also often exceeds a threshold of 65 °C in heat deflection temperature. Use of a compatibilizer and impact modifier further improves the industrial versatility of the heat resistant PLA compound. Alternatively, use of calcium carbonate in the heat resistant PLA compound also is industrially valuable.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

C08L 67/04(2006.01)i, C08L 35/04(2006.01)i, C08L 35/06(2006.01)i, C08L 25/04(2006.01)i, C08L 33/12(2006.01)i, C08L 33/08(2006.01)i, C08J 5/00(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)

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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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2007-083820 A1 (TELJIN CHEMICALS LTD. et al.) 26 July 2007 See the whole document.	1-16
A	WO 2006-121056 A1 (MITSUI CHEMICALS INC.) 16 November 2006 See the whole document.	1-16
A	JP 2005-187533 A (ASAHI KASEI CHEMICALS CORP.) 14 July 2005 See the whole document.	1-16
A	JP 2007-009008 A (MITSUI CHEMICALS INC.) 18 January 2007 See the whole document.	1-16

☐ 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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"P" document published prior to the international filing date but later than the priority date claimed

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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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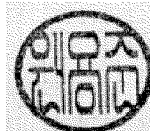
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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JP 2007-009008 A	18.01.2007	None	