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(71) Applicant *(for all designated States except US)*: **LG CHEM, LTD.** [KR/KR]; 20, Yoido-dong, Youngdungpo-gu, Seoul 150-721 (KR).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **KIM, Ok Sun** [KR/KR]; 1102, Honorsville, 1380-1, Dunsan 1-dong, Seo-gu, Daejeon 302-831 (KR). **KIM, Young-Min** [KR/KR]; 8-1002, Garam Apt., Samcheon-dong, Seo-gu, Daejeon 302-744 (KR). **KANG, MinAh** [KR/KR]; 702, Honorsville, Dunsan-dong, Seo-gu, Daejeon 302-120 (KR).

(74) Agent: **SOHN, Chang Kyu**; 1403, Seongji Heights 2-cha Bldg., 642-16, Yoksam 1-dong, Kangnam-gu, Seoul 135-910 (KR).

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(54) Title: BINDER FOR SECONDARY BATTERY PROVIDING EXCELLENT CYCLE PROPERTY

(57) Abstract: Provided is a binder for secondary battery electrodes wherein the content of a gel comprising a polymer particle obtained by copolymerizing three or more types of monomers is 50 to 100% by weight and a swelling index of the binder to an electrolyte is 1.1 to 5.0. The binder fundamentally improves electrode stability due to the gel content defined above and increases ionic conductivity due to the swelling index, thus providing secondary batteries with superior cycle properties.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2011/004180

A. CLASSIFICATION OF SUBJECT MATTER

H01M 4/62(2006.01)i, H01M 4/48(2010.01)i, H01M 4/583(2010.01)i, C08F 212/10(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)

H01M 4/62; H01M 10/058; H01G 9/058; H01M 4/04; C08J 5/22

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: battery, binder, electrode, copolymer, carbonic acid ester, vinyl, nitrile, and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-0729118 B1 (LG CHEM. LTD.) 14 June 2007	1-13,15
Y	See claims 1, 3-5, 8, description of the invention, example 1	14
Y	JP 2000-286167 A (TOYOTA MOTOR CORP.) 13 October 2000	14
A	See claim 1, para. 0006	1-13,15
A	KR 10-2003-0010406 A (NEWTURN ENERGY CO., LTD.) 05 February 2003 See claims 3, 12-14	1-15
A	KR 10-0711975 B1 (ZEON CORPORATION) 02 May 2007 See claims 1, 2, 10, 13	1-15

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance

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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 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

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
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Korean Intellectual Property Office
Government Complex-Daejeon, 189 Cheongsa-ro,
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

PARK Jin

Telephone No. 82-42-481-8274

INTERNATIONAL SEARCH REPORT

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
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		JP 2008-546135 A	18.12.2008
		US 2006-0275661 A1	07.12.2006
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		WO 00-45452 A1	03.08.2000