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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: THE RECOVERY OF ALUMINA TRIHYDRATE DURING THE BAYER PROCESS USING CROSS-LINKED POLYSACCHARIDES

(57) Abstract: The invention provides methods and compositions for improving the production of alumina hydrate. The invention involves adding one or more polysaccharides to liquor or slurry in the fluid circuit of the production process. The one or more polysaccharides can be a cross-linked polysaccharide (such as cross-linked dextran or cross-linked dihydroxypropyl cellulose). The various polysaccharides can impart a number of advantages including at least some of: greater flocculation effectiveness, increasing the maximum effective dosage, faster settling rate. The production process can be a Bayer process.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/046579**A. CLASSIFICATION OF SUBJECT MATTER*****C01F 7/06(2006.01)i, C01F 7/47(2006.01)i, B01D 21/01(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)

C01F 7/06; C08J 3/24; C02F 1/56; C01F 1/00; C08F 265/10; C01F 7/46

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: alumina hydrate, bayer process, cross-linked polysaccharide

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2009-085514 A2 (CYTEC TECHNOLOGY CORP. et al.) 09 July 2009 See abstract; paragraph [0012-0019]; claim 1	1-14
A	US 2008-0107578 A1 (WANG JING et al.) 08 May 2008 See abstract; paragraph [0012-0014]	1-14
A	US 6605674 B1 (WHIPPLE; WESLEY L. et al.) 12 August 2003 See abstract; column 8, line 44-60	1-14
A	US 05217620A A (MAHONEY; ROBERT P. et al.) 08 June 1993 See abstract; claim 1	1-14

☐ 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

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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

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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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