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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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(54) Title: ADJUVANT FOR AGRICULTURAL CHEMICALS

(57) Abstract: The present invention provides adjuvant chemical compositions that increase the effectiveness of a wide array of agricultural chemicals. Specifically, the present adjuvant compositions may increase the effectiveness of the normal, accepted amounts of an agricultural chemical per acre. Alternatively, the present adjuvant compositions may obtain similar results upon application of a decreased amount an agricultural chemical per acre. Compositions are also provided that comprise, in addition to the adjuvant compositions, at least one agricultural chemical. The present invention further provides methods of preparation and use thereof.



WO 2011/041079 A3

A. CLASSIFICATION OF SUBJECT MATTER*A01N 25/02(2006.01)i, A01N 33/02(2006.01)i, A01N 43/74(2006.01)i, A01N 57/00(2006.01)i, A01N 37/00(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

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: adjuvant, agricultural chemical, permeabilizing agent, alkylamine, surfactant, water

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2004-0138176 A1 (DAVID MILES) 15 July 2004 See the whole document	1-45
A	KR 10-2001-0032911 A (COGNIS CORPORATION) 25 April 2001 See the whole document	1-45
A	JP 2007-262051 A (NISSAN CHEM. IND. LTD.) 11 October 2007 See the whole document	1-45
A	US 2004-0097372 A1 (WILLIAM ABRAHAM et al.) 20 May 2004 See the whole document	1-45
A	US 2002-0123430 A1 (XIAODONG C. XU et al.) 05 September 2002 See the whole document	1-45

 Further documents are listed in the continuation of Box C. See patent family annex.

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"&" document member of the same patent family


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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004-0138176 A1	15.07.2004	US 2003-0224939 A1 US 2010-255997 A1	04.12.2003 07.10.2010
KR 10-2001-0032911 A	25.04.2001	AU 1999-16243 A1 AU 1999-16243 B2 CA 2313193 A1 EP 1037528 A1 EP 1037528 A4 JP 2002-504480 A US 6432884 B1 WO 99-29171 A1	28.06.1999 17.01.2002 17.06.1999 27.09.2000 13.06.2001 12.02.2002 13.08.2002 17.06.1999
JP 2007-262051 A	11.10.2007	EP 1829448 A2	05.09.2007
US 2004-0097372 A1	20.05.2004	None	
US 2002-0123430 A1	05.09.2002	AU 2001-263361 B2 AU 2001-63361 A1 AU 2002-245592 B2 AU 2002-259275 B2 AU 2002-259275 C1 AU 2002-259275 C1 AU 2002-318146 A2 AU 2002-318146 B2 CA 2407751 A1 CA 2407751 C CA 2439689 A1 CA 2447869 A1 CA 2447869 C CA 2447897 A1 CN 100469248 C0 CN 101326919 A CN 1444451 A0 CN 1505479 A CN 1578623 A CN 1578623 C0 CN 1610501 A CN 1610501 C0 EP 1343375 A2 EP 1343375 B1 EP 1389040 A2 EP 1389040 B1 EP 1389912 A2 EP 1389912 B1 EP 1395116 A2 EP 1395116 B1 EP 1721523 A2 JP 2003-535056 A US 2003-0087764 A1	02.06.2005 03.12.2001 04.01.2007 22.03.2007 09.12.2002 22.03.2007 02.01.2003 10.05.2007 29.11.2001 06.09.2005 12.09.2002 05.12.2002 10.08.2010 27.12.2002 18.03.2009 24.12.2008 24.09.2003 16.06.2004 09.02.2005 20.06.2007 27.04.2005 13.12.2006 17.09.2003 02.08.2006 18.02.2004 19.05.2010 25.02.2004 11.11.2009 10.03.2004 10.01.2007 15.11.2006 25.11.2003 08.05.2003

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/048218

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		US 2003-0096708 A1	22.05.2003
		US 2003-0104943 A1	05.06.2003
		US 2005-0261130 A1	24.11.2005
		US 2006-0019830 A1	26.01.2006
		US 6992045 B2	31.01.2006
		US 7049270 B2	23.05.2006
		US 7135437 B2	14.11.2006
		US 7723265 B2	25.05.2010
		WO 01-89302 A2	29.11.2001
		WO 01-89302 A3	29.11.2001
		WO 02-069718 A2	12.09.2002
		WO 02-069718 A3	12.09.2002
		WO 02-096199 A2	05.12.2002
		WO 02-096199 A3	05.12.2002
		WO 02-102153 A2	27.12.2002
		WO 02-102153 A3	27.12.2002