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(54) Title: ULTRA-HIGH LOADING GLYPHOSATE CONCENTRATE

(57) Abstract: This invention relates to a storage stable, aqueous, herbicidal formulation containing an ultra-high concentration of glyphosate in the isopropylamine, potassium or mixed salt form in combination with a surfactant system, to a method of making the formulation, and to a method of treating unwanted vegetation employing the formulation. The surfactant system employed in the concentrate comprises dialkoxylated alkylamine, water miscible solubilizer and amine oxide. The surfactant system unexpectedly permits the formulation of storage stable, ultra-high loaded aqueous glyphosate salt concentrates possessing high or no cloud points.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A01N

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 practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003/087764 A1 (PALLAS NORMAN R [US] ET AL) 8 May 2003 (2003-05-08) cited in the application paragraph [0054] - paragraph [0055] paragraph [0130] paragraph [0154] paragraph [0158] claim 4	1-17
A	WO 96/32839 A (MONSANTO CO [US]) 24 October 1996 (1996-10-24) page 1, line 4 - line 7 page 7, line 4 - line 20 page 8, line 34 - page 9, line 5 -/--	1-17

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PCT/US2009/003663

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2006/034459 A (AKZO NOBEL NV [NL]; ZHU SHAWN [US]; NGUYEN GIAO [US]; NGUYEN KHA [US];) 30 March 2006 (2006-03-30) page 6, line 5 - line 26 page 8, line 7 - line 21 page 22, line 10 - line 19 example 7	1-17
A	US 2005/261130 A1 (LENNON PATRICK J [US] ET AL) 24 November 2005 (2005-11-24) paragraph [0002] paragraph [0014] paragraph [0047] - paragraph [0049] paragraph [0278] paragraph [0303] examples 66-68	1-17
A	WO 2006/041702 A (HUNTSMAN SPEC CHEM CORP [US]; ELSIK CURTIS M [US]; WHEWELL CHRISTOPHER) 20 April 2006 (2006-04-20) cited in the application page 5, line 5 - line 11 page 7, line 2 - line 4	1-17
A	EP 0 290 416 A (MONSANTO EUROPE SA [BE]) 9 November 1988 (1988-11-09) page 2, line 45 - page 3, line 13	1-17
A	US 5 858 921 A (MAGIN RALPH W [US] ET AL) 12 January 1999 (1999-01-12) cited in the application column 2, line 2 - line 6 column 4, line 23 - line 60	1-17

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/003663

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003087764	A1	08-05-2003	NONE
<hr/>			
WO 9632839	A	24-10-1996	AR 001582 A1 26-11-1997
			AR 033215 A2 10-12-2003
			AT 187602 T 15-01-2000
			AU 691425 B2 14-05-1998
			AU 5325196 A 07-11-1996
			BR 9608102 A 20-07-1999
			CA 2214376 A1 24-10-1996
			CN 1187105 A 08-07-1998
			CZ 9703327 A3 18-02-1998
			DE 69605660 D1 20-01-2000
			DE 69605660 T2 13-07-2000
			DK 820231 T3 27-03-2000
			EP 0820231 A2 28-01-1998
			ES 2142055 T3 01-04-2000
			GR 3032560 T3 31-05-2000
			HK 1014831 A1 31-05-2002
			HU 9801372 A2 28-09-1998
			JP 3015107 B2 06-03-2000
			JP 10513478 T 22-12-1998
			KR 100250404 B1 01-04-2000
			NZ 305278 A 25-02-1999
			PL 322682 A1 16-02-1998
			PT 820231 E 31-05-2000
			RO 117139 B1 30-11-2001
			RU 2190329 C2 10-10-2002
			TR 9701141 T1 21-02-1998
			US RE37866 E1 01-10-2002
<hr/>			
WO 2006034459	A	30-03-2006	AR 053767 A1 23-05-2007
			AU 2005286666 A1 30-03-2006
			BR PI0515898 A 12-08-2008
			CA 2581342 A1 30-03-2006
			EP 1793667 A1 13-06-2007
			JP 2008514619 T 08-05-2008
			SG 155954 A1 29-10-2009
			US 2008261814 A1 23-10-2008
<hr/>			
US 2005261130	A1	24-11-2005	US 2002123430 A1 05-09-2002
<hr/>			
WO 2006041702	A	20-04-2006	AU 2005294595 A1 20-04-2006
			CA 2583124 A1 20-04-2006
			CN 101060779 A 24-10-2007
			EP 1804578 A2 11-07-2007
			JP 2008515891 T 15-05-2008
			KR 20070083880 A 24-08-2007
			US 2009215626 A1 27-08-2009
<hr/>			
EP 0290416	A	09-11-1988	CA 1324727 C 30-11-1993
			DE 3881954 D1 29-07-1993
			DE 3881954 T2 30-09-1993
			DK 234888 A 30-10-1988
			EG 19063 A 29-09-1994
			ES 2058337 T3 01-11-1994
			FI 881997 A 30-10-1988
			IE 62968 B1 08-03-1995
			IL 86217 A 06-09-1992

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/003663

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0290416	A	JP 2526270 B2	21-08-1996
		JP 63284106 A	21-11-1988
		PT 87352 A	01-05-1988
US 5858921	A	12-01-1999 CA 2250301 A1	09-10-1997
		DE 69700783 D1	16-12-1999
		DE 69700783 T2	15-06-2000
		EP 0891136 A1	20-01-1999
		WO 9736489 A1	09-10-1997
		US 5710103 A	20-01-1998