



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/US95/13694		(71) Applicant (for all designated States except US): E.I. DU PONT DE NEMOURS AND COMPANY [US/US]; 1007 Market Street, Wilmington, DE 19898 (US).	
(22) International Filing Date: 24 October 1995 (24.10.95)		(72) Inventors; and (75) Inventors/Applicants (for US only): PAPPAS-FADER, Thalia [US/US]; 100 Woods Lane, Landenberg, PA 19350-9109 (US). LEEP, Daniel, Carl [US/US]; 12 Farmingdale Lane, Newark, DE 19711 (US). YANG, Alexander, Yung, Shing [US/US]; 1241 Doe Run Road, Newark, DE 19711-2408 (US). SMITH, William, Francis, III [US/US]; 205 Rhett Lane, Elkton, MD 21921-2059 (US). RUGGIERO, Marc [US/US]; 2124 St. Francis Street, Wilmington, DE 19808-4056 (US).	
(30) Priority Data:			
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08/412,396	28 March 1995 (28.03.95)	US	
60/000,231	15 June 1995 (15.06.95)	US	
60/001,272	20 July 1995 (20.07.95)	US	
60/001,448	26 July 1995 (26.07.95)	US	
60/002,049	8 August 1995 (08.08.95)	US	
(60) Parent Applications or Grants		(74) Agents: GREGORY, Theodore, C. et al.; E.I. du Pont de Nemours and Company, Legal Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).	
(63) Related by Continuation		(81) Designated States: AL, AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, LS, MW, SD, SZ, UG).	
US	08/334,720 (CIP)		
Filed on	4 November 1994 (04.11.94)		
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(54) Title: HERBICIDAL MIXTURES			
(57) Abstract			
This invention relates to herbicidal mixtures of anilofos with one or more of the compounds selected from azimsulfuron, metsulfuron methyl, chlorimuron ethyl, bensulfuron methyl, ethametsulfuron methyl, nicosulfuron, rimsulfuron, sulfometuron methyl, thifensulfuron methyl, tribenuron methyl, triflurosulfuron methyl, methyl 2-[[[(4,6-dimethoxy-2-pyrimidinyl)amino]carbonyl]amino]sulfonyl]-6-(trifluoromethyl)-3-pyridinecarboxylate, chlorsulfuron, propanil and hexazinone, herbicidal compositions of said mixtures and a method for the use of said mixtures to control undesired vegetation.			

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INTERNATIONAL SEARCH REPORT

Intern. Application No
PCT/US 95/13694

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A01N57/14

//(A01N57/14,47:36,43:64,37:22)

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)
IPC 6 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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	DE 44 40 122 A (HOECHST SCHERING AGREVO G.M.B.H., GERMANY) 18 May 1995 see page 2 - page 3, line 19 see page 3, line 24 - line 40 ---	1,2, 21-23
Y	DE 42 36 475 A (HOECHST A.-G., GERMANY) 9 June 1994 cited in the application see the whole document ---	1-18, 21-23
Y	CLIVE TOMLIN ED.: "THE PESTICIDE MANUAL, Tenth Edition", THE BRITISH CROP PROTECTION COUNCIL & THE ROYAL SOCIETY OF CHEMISTRY, CAMBRIDGE, GB; Index 6: "Classes", pages 1335-1341 see page 1340, right-hand column, class "sulfonylurea" --- -/-	1,2,4,5, 10-12, 14-18, 21-23

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

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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

Date of the actual completion of the international search

20 March 1996

Date of mailing of the international search report

04.04.97

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+ 31-70) 340-3016

Authorized officer

MÜLLNERS W.

INTERNATIONAL SEARCH REPORT

Intern: al Application No
PCT/US 95/13694

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 93 00011 A (DU PONT DE NEMOURS, E. I., AND CO., JAPAN) 7 January 1993 see page 2, line 13 - page 6, line 8 ---	3
Y	CHEMICAL ABSTRACTS, vol. 120, no. 21, 23 May 1994 Columbus, Ohio, US; abstract no. 263709, KUMBHAKAR, A. K. ET AL: "Efficacy of sulfonylurea herbicides on transplanted rice culture" see abstract & ENVIRON. ECOL. (1993), 11(2), 381-5 CODEN: ENECEV;ISSN: 0970-0420, ---	6
Y	WO 89 01289 A (E.I. DU PONT DE NEMOURS AND COMPANY) 23 February 1989 see page 1 - page 3, line 3 ---	7
Y	EP 0 502 740 A (E.I. DU PONT DE NEMOURS AND COMPANY) 9 September 1992 see page 3, line 1 - line 18 see page 15, line 50 - page 16, line 5 see page 19, line 6 - line 10 & WO 92 15576 A cited in the application ---	8,9
Y	CHEMICAL ABSTRACTS, vol. 119, no. 5, 2 August 1993 Columbus, Ohio, US; abstract no. 43240, LONGAUEROVA, JOHANA: "Harmony 75 DF and Titus 25 DF - perspective herbicides in maize" see abstract & AGROCHEMIA (BRATISLAVA) (1992), 32(11), 267-70 CODEN: AGROB2;ISSN: 0002-1830, ---	13
A	CHEMICAL ABSTRACTS, vol. 103, no. 9, 2 September 1985 Columbus, Ohio, US; abstract no. 66767, NISSAN CHEMICAL INDUSTRIES, LTD., JAPAN: "Synergistic herbicides containing pyrazole sulfonylureas" see abstract & JP 60 045 509 A (NISSAN CHEMICAL INDUSTRIES, LTD., JAPAN) ---	1-18, 21-23
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INTERNATIONAL SEARCH REPORT

Intern: 11 Application No
PCT/US 95/13694

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	CHEMICAL ABSTRACTS, vol. 123, no. 11, 11 September 1995 Columbus, Ohio, US; abstract no. 135808, SHIRAKURA, SHINICHI ET AL: "Activity of a sulfonylurea herbicide azimsulfuron (DPX-A8947) in combination with bensulfuron methyl and effects of environmental factors." see abstract & ZASSO KENKYU (1995), 40(1), 29-38 CODEN: ZASKAN;ISSN: 0372-798X, -----	1-18, 21-23

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 95/ 13694

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See annex

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1. Claims 1, 21-23 (partially) ; Claims 2-18 (completely)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/US 95/ 13694

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

- 1 . Claims 1, 21-23 (partially)
claims 2-18 (completely)

A herbicidally effective mixture of anilofos (formula I) with one or more of the herbicidal compounds selected from the sulfonylureas according to formulas IIa-IIm, provided that when bensulfuron (formula IIId) is present, then one or more of the compounds represented by the formulas IIa-IIc and IIe-IIo are also present, an agriculturally suitable composition comprising this mixture, and methods of controlling the growth of undesired vegetation by applying the mixture.

- 2 . Claims 1, 21-23 (partially)
Claim 19 (completely)

A herbicidally effective mixture of anilofos (formula I) with propanil (formula IIn), an agriculturally suitable composition comprising this mixture, and methods of controlling the growth of undesired vegetation by applying the mixture.

- 3 . Claims 1, 21, 22 (partially)
claim 20 (completely)

A herbicidally effective mixture of anilofos (formula I) with hexazinone (formula IIo), an agriculturally suitable composition comprising this mixture and a method of controlling the growth of undesired vegetation by applying the mixture.