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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 :
A62D 3/00, A61L 2/22, A01N 65/00,
Continued on the following page

A3

(11) International Publication Number: **WO 99/15208**

(43) International Publication Date: 1 April 1999 (01.04.99)

(21) International Application Number: PCT/GB98/02863

(22) International Filing Date: 22 September 1998 (22.09.98)

(30) Priority Data:

9720275.8	25 September 1997 (25.09.97)	GB
9720298.0	25 September 1997 (25.09.97)	GB

(71) Applicant *(for all designated States except US)*: RECKITT & COLMAN PRODUCTS LIMITED [GB/GB]; 67 Alma Road, Windsor, Berkshire SL4 3HD (GB).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: SUH, Janette [US/US]; 690–F River Road, New Milford, NJ 07646 (US). McKECHNIE, Malcolm, Tom [GB/GB]; Spring Rise, 12a North Road, Lund, Driffield, East Yorkshire YO25 9TF (GB). CORNELIUS, Gay [GB/GB]; 57 The Wolds, Cottingham, East Yorkshire HU16 5LQ (GB). THOMPSON, Ian, Andrew [AU/AU]; 2 Blanford Street, Collaroy Plateau, NSW 2097 (AU).

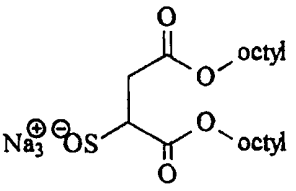
(74) Agents: DALE, Martin, Nicholas et al.; Reckitt & Colman plc, Group Patents Dept., Dansom Lane, Hull HU8 7DS (GB).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

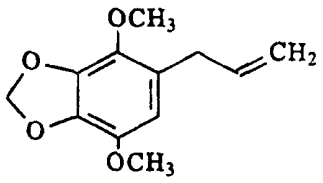
Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(88) Date of publication of the international search report:
20 May 1999 (20.05.99)

(54) Title: DEACTIVANTS FOR DUST MITE ALLERGENS

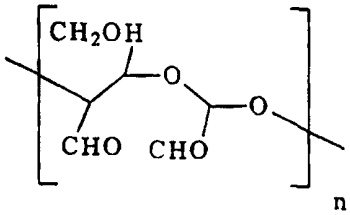


(I)



(II)

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(III)

(57) Abstract

Der–f and/or Der–p dust mite allergens are deactivated by an amount of one or more of the following deactivants: i) cedarwood oil, ii) hexadecyltrimethylammonium chloride, iii) aluminium chlorohydrate, iv) 1–propoxy–propanol–2, v) polyquaternium–10, vi) silica gel, vii) propylene glycol alginate, viii) ammonium sulphate, ix) hinokitiol, x) L–ascorbic acid, xi) immobilised tannic acid, xii) chlorohexidine, xiii) maleic anhydride, xiv) hinoki oil, xv) a composite of AgCl and TiO_2, xvi) diazolidinyl urea, xvii) 6–isopropyl–m–cresol, xviii) a compound of formula (I), xix) the compound of formula (II), xx) a polymeric dialdehyde containing two or more of a recurring unit of formula (III), where n = 2 to 200, xxi) urea, xxii) cyclodextrin, xxiii) hydrogenated hop oil, xxiv) polyvinylpyrrolidone, xxv) N–methylpyrrolidone, xxvi) the sodium salt of anthraquinone, xxvii) potassium thioglycolate, and xxviii) glutaraldehyde. Deactivants (i) to (xx) are effective against allergens derived from both species. Deactivants (xxi) to (xxvi) are effective against only Der–f allergens. Deactivants (xxvii) and (xxviii) are effective against only Der–p allergens. Aerosol compositions comprise said deactivants, a propellant and optional solvents.

59/16, 59/06, 59/02, 59/00, 47/44, 47/36, 47/28, 43/36, 43/30, 43/16, 43/08, 41/04, 37/40, 37/36, 37/06, 35/06, 35/02, 33/12, 31/08, 31/06, 31/02, 27/00, 25/06 // (A01N 43/16, 35:06, 27:00), (A01N 31/06, 27:00), (A01N 59/16, 59:16)

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INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/GB 98/02863

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A62D3/00 A61L2/22 A01N65/00 A01N59/16 A01N59/06
A01N59/02 A01N59/00 A01N47/44 A01N47/36 A01N47/28
A01N43/36 A01N43/30 A01N43/16 A01N43/08 A01N41/04

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.
X	WO 93 15774 A (BLANC MICHEL) 19 August 1993 see page 2, line 14 - line 31 see page 5, line 3 - page 7, line 8 see page 7, line 24 - line 29 see page 8, line 5 - line 16; claims ---	1-16
X	EP 0 716 143 A (VEITH HORST K) 12 June 1996 see column 2, line 56 - column 4, line 29 see column 5, line 19 - line 28 see column 6, line 11 - column 7, line 58; claims 1,3,10,11,15,17 --- -/--	1-16

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15 December 1998	25. 03. 1999

Name and mailing address of the ISA	Authorized officer
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	MÜLLNERS W.

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INTERNATIONAL SEARCH REPORT

Intern ıal Application No
PCT/GB 98/02863

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A01N37/40 A01N37/36 A01N37/06 A01N35/06 A01N35/02
A01N33/12 A01N31/08 A01N31/06 A01N31/02 A01N27/00
A01N25/06 //(A01N43/16,35:06,27:00),(A01N31/06,

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Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE WPI Section Ch, Week 9439 Derwent Publications Ltd., London, GB; Class C03, AN 94-312861 XP002087548 & JP 06 237979 A (MATSUHIRA TENNENBUTSU KENKYUSHO KK), 30 August 1994 see abstract --- -/--	1-16

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INTERNATIONAL SEARCH REPORT

Intern ial Application No
PCT/GB 98/02863

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 27:00),(A01N59/16,59:16)

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)

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.
X	DATABASE WPI Section Ch, Week 9209 Derwent Publications Ltd., London, GB; Class C05, AN 92-069406 XP002087549 & JP 04 013607 A (ISHIBASHI S) , 17 January 1992 see abstract & PATENT ABSTRACTS OF JAPAN vol. 016, no. 164 (C-0931), 21 April 1992 & JP 04 013607 A (SADAMI ISHIBASHI ET AL.), 17 January 1992 see abstract --- -/--	1-16

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Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE WPI Section Ch, Week 9628 Derwent Publications Ltd., London, GB; Class C05, AN 96-272701 XP002087550 & JP 08 113509 A (SUN S ENG KK) , 7 May 1996 see abstract	1-6, 8-10, 12-16
X	DATABASE WPI Section Ch, Week 8945 Derwent Publications Ltd., London, GB; Class C03, AN 89-327609 XP002087551 & JP 01 242508 A (TAISHO PHARM CO LTD) , 27 September 1989 see abstract	1-6, 8-10, 12-16
X	CHEMICAL ABSTRACTS, vol. 69, no. 19, 4 November 1968 Columbus, Ohio, US; abstract no. 75913, HONMA, SHOICHI: "Effect of various chemicals on mites" XP002087547 see abstract & YAKUZAIGAKU (1967), 27(3), 192-6 CODEN: YAKUA2,1967,	1-7
X	US 5 461 751 A (SEPKE ARNOLD L) 31 October 1995 see column 1, line 5 - line 51 see column 2, line 21 - line 25	1-6
X	DATABASE WPI Section Ch, Week 9626 Derwent Publications Ltd., London, GB; Class A97, AN 96-253998 XP002087552 & JP 08 103402 A (EGASHIRA N) , 23 April 1996 see abstract	1-6
A	US 4 806 526 A (GREEN WESLEY F) 21 February 1989 cited in the application see the whole document	1-16
A	WO 96 09762 A (PHYTODIF LAB ;ROMBI MAX (FR)) 4 April 1996 see page 1 - page 2, line 5 see page 7, line 12 - line 17; example 3	1-16

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INTERNATIONAL SEARCH REPORT

Ir. ational application No.
PCT/GB 98/02863

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 further information sheet

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.:

1-16 (partially)

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

1. Claims : 1- 16 (partially)
A method and a corresponding aerosol composition for deactivating a Der- f and/or a Der- P allergen by contacting it with a deactivant selected from:
a) cedarwood oil
b) hinokitiol
c) hinoki oil
d) 6- iospropyl- m- cresol

2. Claims : 1- 6, 8- 10 12- 16 (partially)
as subject 1, but the deactivant is hexadecyltrimethylammonium chloride

3. Claims : 1- 6, 8- 10, 12- 16 (partially)
as subject 1, but the deactivant is aluminium chlorohydrate

4. Claims : 1- 6, 8- 10, 12- 16 (partially)
as subject 1, but the deactivant is 1- propoxy- propanol

5. Claims : 1- 6, 8- 10, 12- 16 (partially)
as subject 1, but the deactivant is polyquaternium- 10

6. Claims : 1- 6, 8- 10, 12- 16 (partially)
as subject 1, but the deactivant is silica gel

7. Claims : 1- 6, 8- 10, 12- 16 (partially)
as subject 1, but the deactivant is propylene glycol alginate

8. Claims : 1- 6, 8- 10, 12- 16 (partially)
as subject 1, but the deactivant is ammonium sulphate

9. Claims : 1- 6, 8- 10, 12- 16 (partially)
as subject 1, but the deactivant is L- ascorbic acid

10.Claims : 1- 6, 8- 10, 12- 16 (partially)
as subject 1, but the deactivant is cyclodextrin

11.Claims : 1- 16 (partially)
as subject 1, but the deactivant is chlorohexidine

12.Claims : 1- 16 (partially)
as subject 1, but the deactivant is maleic anhydride

13.Claims : 1- 16 (partially)
as subject 1, bur the deactivant is a composition of AgCl and Ti02

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

14.Claims : 1- 16 (partially)
as subject 1, but the deactivant is diazolidinyl urea

15.Claims : 1- 16 (partially)
as subject 1, but the deactivant is a compound of formula (I), i.e. sodium dioctyl 2- sulfosuccinate

16.Claims : 1- 16
as subject 1, but the deactivant is a compound of formula (II), i.e. 4,7-Dimethoxy- 5-(2- propenyl)- 1,3- benzodioxol

17.Claims : 1- 6, 8- 10, 12- 16 (partially)
as subject 1, but the deactivant is a polymeric dialdehyde containing two or more of a recurring unit of formula III, i.e. oxidized starch

18.Claims : 1, 2, 4- 6, 8, 9, 12- 16 (partially)
as subject 1, but the deactivant is urea

19.Claims : 1, 2, 4, 5, 8, 9, 12- 16 (partially)
as subject 1, but the deactivant is cyclodextrin

20.Claims : 1, 2, 4, 5, 8, 9, 12- 16 (partially)
as subject 1, but the deactivant is hydrogenated hop oil

21.Claims : 1, 2, 4, 5, 8, 9, 12- 16 (partially)
as subject 1, but the deactivant is polyvinylpyrrolidone

22.Claims : 1, 2, 4, 5, 8, 9, 12- 16 (partially)
as subject 1, but the deactivant is N-Methylpyrrolidone

23.Claims : 1, 2, 4, 5, 7- 9, 11- 16 (partially)
as subject 1, but the deactivant is the sodium salt of anthraquinone

24.Claims : 1, 3, 4, 6, 8, 10, 12- 16 (partially)
as subject 1, but the deactivant is potassium thioglycolate

25.Claims : 1, 3, 4, 6, 8, 10, 12- 16 (partially)
as subject 1, but the deactivant is glutaraldeyde

INTERNATIONAL SEARCH REPORT

Information on patent family members

Internal Application No
PCT/GB 98/02863

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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