

(19) World Intellectual Property Organization
International Bureau



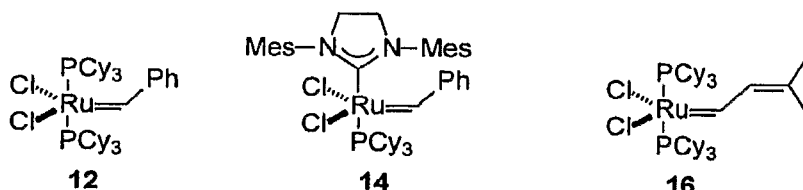
(43) International Publication Date
16 August 2007 (16.08.2007)

PCT

(10) International Publication Number
WO 2007/092633 A3

- (51) **International Patent Classification:**
A01N 37/06 (2006.01) A01P 1/00 (2006.01)
- (21) **International Application Number:**
PCT/US2007/003623
- (22) **International Filing Date:**
9 February 2007 (09.02.2007)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
60/772,021 9 February 2006 (09.02.2006) US
60/851,472 13 October 2006 (13.10.2006) US
- (71) **Applicant (for all designated States except US):** ELE-VANCE RENEWABLE SCIENCES, INC. [US/US]; 3333 Warrenville Road, Lisle, IL 60532 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** ZULLO, Jill, Louise [US/US]; 95 Tonka Bay Lane, Excelsior, Minnesota 55331 (US). ANDERSON, James, C. [US/US]; 9256 Francis Lane, Eden Prairie, Minnesota 55347 (US). CARNEY, Jayne [US/US]; 2618 Cottage Loop, Park City, Utah 84098 (US). DE SOUZA, Mervyn, L. [US/US]; 10935 38th Avenue North, Plymouth, Minnesota 55441 (US). SPERBER, William, H. [US/US]; 5814 Oakview Circle, Minnetonka, Minnesota 55345 (US). TUPY, Michael, John [US/US]; 8332 32nd Place North, Crystal, Minnesota 55427 (US). WAGENER, Earl, H. [US/US]; 657 South Mechanic Street, Pendleton, South Carolina 29670 (US).
- (74) **Agents:** PIOLI, Janet, A. et al.; Brinks Hofer Gilson & Lione, P.O. Box 10087, Chicago, IL 60610 (US).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
- with international search report (Art. 21(3))
 - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
- (88) **Date of publication of the international search report:**
22 April 2010

(54) **Title:** ANTIMICROBIAL COMPOSITIONS, METHODS AND SYSTEMS



(57) **Abstract:** The invention provides methods for treating a surface, the method including steps of applying a surface treatment composition to a surface, wherein the surface treatment composition includes a substantially phenol-free cleansing agent and an antimicrobial agent, the antimicrobial agent comprising 9-decenoic acid, a salt of 9-decenoic acid, an ester of 9-decenoic acid, or a combination thereof, wherein the antimicrobial agent is present in an amount sufficient to control microbial growth. Also described are methods for treating a surface that include the step of applying a surface treatment composition having a pH in the range of 4.1 to 8.5 to a surface, wherein the surface treatment composition includes a cleansing agent and an antimicrobial agent, the antimicrobial agent comprising 9-decenoic acid, a salt of 9-decenoic acid, an ester of 9-decenoic acid, or a combination thereof, wherein the antimicrobial agent is present in an amount sufficient to control microbial growth. Also described are surface treatment compositions including the antimicrobial agents.

WO 2007/092633 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/003623

A. CLASSIFICATION OF SUBJECT MATTER
INV. A01N37/06 A01P1/00

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)
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, BIOSIS, EMBASE, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CA 2 144 021 A1 (FULLER H B CO [US]) 11 November 1995 (1995-11-11)	1-8, 12-20
Y	page 1, line 5 - page 2, line 14 page 2, lines 23-29 page 3, lines 7-13 page 4, lines 16-22, 28, 29, 30, 32 page 6, line 8 - page 8, line 10	1-20
X	US 5 658 584 A (YAMAGUCHI YUZO [JP]) 19 August 1997 (1997-08-19)	1-2, 4-6, 8-15, 17-18, 20
Y	column 1, lines 6-13 column 2, lines 52-64 column 4, lines 26-31, 44 column 4, line 55 - column 5, line 16	1-20
	----- -/--	

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
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "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
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

18 February 2010

Date of mailing of the international search report

08/03/2010

Name and mailing address of the ISA/
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Lamers, Wolfram

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/003623

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE WPI Week 200035 Thomson Scientific, London, GB; AN 2000-402842 XP002569175 & JP 2000 103726 A (EARTH SEIYAKU KK) 11 April 2000 (2000-04-11) abstract -& DATABASE EPODOC EUROPEAN PATENT OFFICE, THE HAGUE, NL; 2000, XP002569176 & JP 2000 103726 A (EARTH CHEMICAL CO) 11 April 2000 (2000-04-11)</p>	1-9, 11-20
X	<p>US 4 442 125 A (THIELE GERALDINE H [US]) 10 April 1984 (1984-04-10) column 3, lines 5-44 column 6, lines 32, 33, 42 column 10, lines 5-10 column 11, lines 1-34 column 18, line 66 - column 19, lines 8, 28-44</p>	1-6, 9-12,20
X	<p>US 4 215 144 A (THIELE GERALDINE H [US]) 29 July 1980 (1980-07-29) column 2, line 31 - column 3, line 55 column 4, line 31 column 7, lines 40-56</p>	1-7, 11-20
Y	<p>DATABASE CA [Online] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; 1979, XP002569177 retrieved from STN-International Database accession no. 79:124897 abstract & JP 48 058125 A 15 August 1973 (1973-08-15) -& DATABASE WPI Week 197348 Thomson Scientific, London, GB; AN 1973-72953U XP002569178 -& JP 48 058125 A (TAKASAGO PERFUMERY CO LTD) 15 August 1973 (1973-08-15) abstract</p>	1-20
Y	<p>WO 2005/015996 A1 (ECOLAB INC [US]; PEDERSEN DANIEL E [US]; LENTSCH STEVEN E [US]; HAMMER) 24 February 2005 (2005-02-24) pages 13-15</p>	1-20

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/003623

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>DATABASE CA [Online] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; 1999, XP002569179 retrieved from STN-International Database accession no. 99:55037 abstract -& JP 58 013776 A (TOKAI SEIYU IND CO LTD) 26 January 1983 (1983-01-26) -& DATABASE WPI Week 198310 Thomson Scientific, London, GB; AN 1983-23387K XP002569180 -& JP 58 013776 A (TOKAI SEIYU KOGYO KK) 26 January 1983 (1983-01-26) abstract</p> <p style="text-align: center;">-----</p>	10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2007/003623

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
CA 2144021	A1	11-11-1995 AU 1631795 A	16-11-1995
US 5658584	A	19-08-1997 JP 3468865 B2 JP 8059419 A	17-11-2003 05-03-1996
JP 2000103726	A	11-04-2000 JP 3909787 B2	25-04-2007
US 4442125	A	10-04-1984 NONE	
US 4215144	A	29-07-1980 NONE	
JP 48058125	A	15-08-1973 NONE	
WO 2005015996	A1	24-02-2005 AU 2004264850 A1 BR PI0413259 A CA 2532276 A1 JP 2007501228 T US 2005032668 A1	24-02-2005 03-10-2006 24-02-2005 25-01-2007 10-02-2005
JP 58013776	A	26-01-1983 JP 1274150 C JP 59011711 B	31-07-1985 17-03-1984