

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 September 2007 (13.09.2007)

PCT

(10) International Publication Number
WO 2007/102913 A3

(51) International Patent Classification:
A23D 9/06 (2006.01) A23J 7/00 (2006.01)
C11B 5/00 (2006.01) B01J 13/04 (2006.01)

(74) Agents: AMJAD, Holly, M. et al.; P.O. Box 88940, St. Louis, Missouri 63188 (US).

(21) International Application Number:
PCT/US2006/062161

(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.

(22) International Filing Date:
15 December 2006 (15.12.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/751,020 16 December 2005 (16.12.2005) US
11/610,881 14 December 2006 (14.12.2006) US

(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).

(71) Applicant (for all designated States except US): SOLAE, LLC [US/US]; P.O. Box 88940, St. Louis, Missouri 63188 (US).

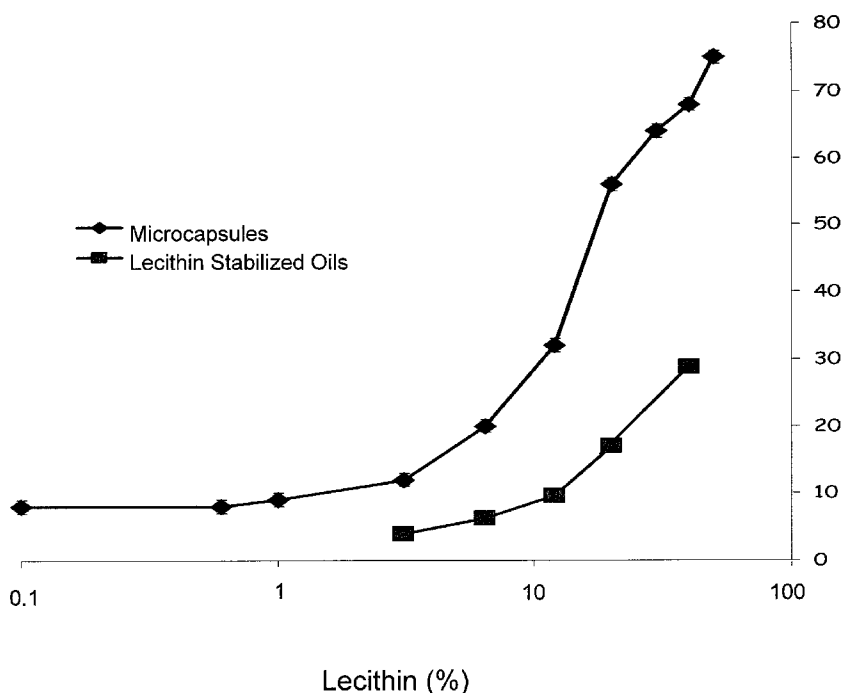
(72) Inventors; and

(75) Inventors/Applicants (for US only): MOORE, Joshua, J. [US/US]; 1911 Hawksbill Drive, Belleville, IL 62231 (US). KOLAR, Charles, W. [US/US]; 5073 Reynosa Drive, St. Louis, Missouri 63128 (US).

Published:
— with international search report

[Continued on next page]

(54) Title: PHOSPHOLIPID-STABILIZED OXIDIZABLE MATERIAL



(57) Abstract: Compositions and methods to reduce the oxidation of an oxidizable material are disclosed herein. A composition comprising a phospholipid-stabilized oxidizable material is disclosed. The composition comprises an oxidizable material, a phospholipid, and an optional protein. The phospholipid reduces the oxidation of the oxidizable material in the absence of water.

WO 2007/102913 A3



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

15 November 2007

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2006/062161

A. CLASSIFICATION OF SUBJECT MATTER INV. A23D9/06 C11B5/00 A23J7/00 B01J13/04		
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) A23D C11B A23J B01J		
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, FSTA		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KLINKESORN U; SOPHANODORA P; CHINACHOTI P; MCCLEMENTS D J; DECKER E A: "Stability of spray-dried tuna oil emulsions encapsulated with two-layered interfacial membranes" JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, vol. 53, no. 21, 19 October 2005 (2005-10-19), pages 8365-8371, XP002450260 page 8366, left-hand column, paragraph 6 - right-hand column, paragraph 2; figure 1 page 8367, right-hand column, paragraph 3 - page 8368, left-hand column, paragraph 1 page 8370, left-hand column, paragraph 2 Abstract ----- -/--	1-10, 24-37
<input checked="" type="checkbox"/>	Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.
* Special categories of cited documents :		
<p>*A* document defining the general state of the art which is not considered to be of particular relevance</p> <p>*E* earlier document but published on or after the international filing date</p> <p>*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)</p> <p>*O* document referring to an oral disclosure, use, exhibition or other means</p> <p>*P* document published prior to the international filing date but later than the priority date claimed</p> <p>*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</p> <p>*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</p> <p>*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.</p> <p>*Z* document member of the same patent family</p>		
Date of the actual completion of the international search 13 September 2007		Date of mailing of the international search report 25/09/2007
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 Saettel, Damien

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2006/062161

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 140 806 A (SEKIMOTO HIROSHI) 5 December 1984 (1984-12-05) page 1, line 65 - page 2, line 56; claims 1-9; examples 1-3; table 1 -----	1-37
X	WO 01/70206 A2 (JAVOR ANDRAS [HU]; PELLIONISZNE PAROCZAI MARGIT [HU]; SZEKELY AKOSNE []) 27 September 2001 (2001-09-27) examples 1,2 -----	1-10
X	US 2 768 084 A (GRIFFITH CARROLL L ET AL) 23 October 1956 (1956-10-23) column 3, line 11 - line 16 -----	1-10
X	US 2002/160081 A1 (TIANO JOHN [US] ET AL) 31 October 2002 (2002-10-31) example 1 -----	1-23
X	US 4 421 543 A (HOLTZ R BARRY [US]) 20 December 1983 (1983-12-20) tables 1,2 -----	11-23
X	WO 00/54575 A (MARTEK BIOSCIENCES CORP [US]; KYLE DAVID J [US]; BECKER CLAUS C [US]) 21 September 2000 (2000-09-21) page 3, line 23 - page 5, line 8; claims 1,7-9,11,18,19; examples 1,2 page 7, line 28 - line 31 -----	1-37
A	GB 589 273 A (NAT OIL PROD CO) 16 June 1947 (1947-06-16) the whole document -----	1-37
A	US 5 498 434 A (JOHNSTON JOHN D [US]) 12 March 1996 (1996-03-12) column 2, line 13 - line 41; claims 1-25; table I -----	1-37
A	US 4 963 385 A (ANTRIM RICHARD L [US] ET AL) 16 October 1990 (1990-10-16) column 6, line 10 - line 38 -----	2,12,25

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/062161

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
GB 2140806	A	05-12-1984	CA 1218376 A1	24-02-1987
			DE 3419796 A1	29-11-1984
			FR 2547829 A1	28-12-1984
			NO 842104 A	29-11-1984
			US 4564475 A	14-01-1986
WO 0170206	A2	27-09-2001	EP 1272197 A2	08-01-2003
			HU 0000997 A2	28-11-2002
			US 2004006048 A1	08-01-2004
US 2768084	A	23-10-1956	NONE	
US 2002160081	A1	31-10-2002	US 2004121044 A1	24-06-2004
US 4421543	A	20-12-1983	NONE	
WO 0054575	A	21-09-2000	AU 3884500 A	04-10-2000
GB 589273	A	16-06-1947	NONE	
US 5498434	A	12-03-1996	CA 2089920 A1	22-08-1993
			MX 9300955 A1	31-08-1994
US 4963385	A	16-10-1990	NONE	