(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

REVISED VERSION

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 June 2012 (28.06.2012)

WIPO | PCT

(10) International Publication Number
WO 2012/084624 A9

(51) International Patent Classification:
A23L 1/052 (2006.01) *A23L 2/52* (2006.01)
A23L 1/275 (2006.01) *A23L 2/66* (2006.01)
A23L 1/30 (2006.01) *B01J 13/14* (2006.01)
A23L 1/303 (2006.01) *A23K 1/16* (2006.01)
A23L 1/305 (2006.01)

(21) International Application Number:
PCT/EP2011/072690

(22) International Filing Date:
14 December 2011 (14.12.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
201010614218.8 23 December 2010 (23.12.2010) CN
PCT/CN2011/001207 22 July 2011 (22.07.2011) CN

(71) Applicant *(for all designated States except US)*: **DSM IP ASSETS B.V.** [NL/NL]; Het Overloon 1, NL-6411 The Heerlen (NL).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **DENG, Wei** [CN/CN]; 6-301, Shiguang No. 2 Estate, Shanghai 200438 (CN). **LEUENBERGER, Bruno** [CH/CH]; Magdenerstrasse 24, CH-4310 Rheinfelden (CH). **VIDONI, Olivia** [FR/FR]; 6 rue Théo Bachmann, F-68300 Saint Louis (FR). **YAO, Ping** [CN/CN]; 56-502, 60 Lane, Guonian Road, Shanghai 200433 (CN). **YIN, Baoru** [CN/CN]; 53-202, 78 Lane, Wuchuan Road, Shanghai 200433 (CN).

(74) Agent: **SCHWANDER, Kuno**; DSM Nutritional Products Ltd, Patent Department, Wurmisweg 576, CH-4303 Kaiseraugst (CH).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, 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, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, 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 revised international search report:
25 April 2013

(15) Information about Correction:
see Notice of 25 April 2013

(54) Title: COMPOSITIONS OF FAT-SOLUBLE ACTIVE INGREDIENTS CONTAINING PLANT PROTEIN-SOY POLYSACCHARIDE COMPLEXES

(57) Abstract: The present invention relates to compositions comprising a) 0.1 to 70 weight-% based on the composition of one or more fat-soluble active ingredients; b) one or more plant protein(s) chosen from the group of proteins suitable for food application; and c) one or more soy soluble polysaccharide(s); wherein the sum of the amount of protein(s) and the amount of polysaccharide(s) represents 10 to 85 weight-% based on the composition in dry matter and, wherein the weight ratio of protein(s) to polysaccharide(s) is chosen like 1 : b with the proviso that b is comprised between 0.5 and 15.

WO 2012/084624 A9

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2011/072690

A. CLASSIFICATION OF SUBJECT MATTER
INV. A23L1/052 A23L1/275 A23L1/30 A23L1/303 A23L1/305
A23L2/52 A23L2/66 B01J13/14 A23K1/16
ADD.
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)
A23L B01J A23K

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 practicable, search terms used)
EPO-Internal, WPI Data, FSTA, 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	HIDEFUMI ET ALL.: "Autoxidation kinetic analysis of docosahexaenoic acid ethyl ester and docosahexaenoic triglyceride with oxygen sensor.", BIOSCIENCE, BIOTECHNOLOGY AND BIOCHEMISTRY, vol. 66, no. 4, 2002, pages 749-753, XP002674872, ISSN: 0916-8451 the whole document	1,2,5,6

X	DATABASE WPI Week 200765 Thomson Scientific, London, GB; AN 2007-695663 XP002674873, & JP 2007 215474 A (MORINAGA & CO LTD) 30 August 2007 (2007-08-30) abstract	1,2,5-12
	-/--	

[X] Further documents are listed in the continuation of Box C.

[X] 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 application or patent 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	Date of mailing of the international search report
27 April 2012	08/03/2013

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, Fax: (+31-70) 340-3016	Fischer, J

2

Form PCT/ISA/210 (second sheet) (April 2005)

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	& JP 2007 215474 A (MORINAGA & CO) 30 August 2007 (2007-08-30) -----	
X	DATABASE WPI Week 200473 Thomson Scientific, London, GB; AN 2004-741288 XP002674874, & JP 2004 298047 A (MORINAGA & CO LTD) 28 October 2004 (2004-10-28) abstract & JP 2004 298047 A (MORINAGA & CO) 28 October 2004 (2004-10-28) -----	1,2,5-12
Y	EP 2 238 843 A1 (DSM IP ASSETS BV [NL]) 13 October 2010 (2010-10-13) the whole document -----	1-12
Y	EP 1 776 873 A1 (FUJI OIL CO LTD [JP]) 25 April 2007 (2007-04-25) the whole document -----	1-12
X,P	WO 2011/088941 A1 (UNILEVER NV [NL]; UNILEVER PLC [GB]; UNILEVER HINDUSTAN [IN]; MELLEMA) 28 July 2011 (2011-07-28) the whole document -----	1,2,5,6, 11,12
A	EP 1 698 239 A1 (FUJI OIL CO LTD [JP]) 6 September 2006 (2006-09-06) the whole document -----	1-12
A	DATABASE WPI Week 200958 Thomson Scientific, London, GB; AN 2009-M60649 XP002674875, & CN 101 496 541 A (SHANDONG WANDEFU IND GROUP CO LTD) 5 August 2009 (2009-08-05) abstract -----	1-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2011/072690

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2007215474 A	30-08-2007	JP 4804951 B2	02-11-2011
		JP 2007215474 A	30-08-2007
JP 2004298047 A	28-10-2004	JP 4243505 B2	25-03-2009
		JP 2004298047 A	28-10-2004
EP 2238843 A1	13-10-2010	CN 102108137 A	29-06-2011
		EP 2238843 A1	13-10-2010
		JP 2010193890 A	09-09-2010
		KR 20100097613 A	03-09-2010
		US 2011002905 A1	06-01-2011
EP 1776873 A1	25-04-2007	EP 1776873 A1	25-04-2007
		US 2008009606 A1	10-01-2008
		WO 2006006521 A1	19-01-2006
WO 2011088941 A1	28-07-2011	AR 079951 A1	29-02-2012
		WO 2011088941 A1	28-07-2011
EP 1698239 A1	06-09-2006	CN 1893840 A	10-01-2007
		EP 1698239 A1	06-09-2006
		JP 4613825 B2	19-01-2011
		US 2007092625 A1	26-04-2007
		US 2011076369 A1	31-03-2011
		WO 2005058071 A1	30-06-2005
CN 101496541 A	05-08-2009	NONE	