

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
19 June 2008 (19.06.2008)

PCT

(10) International Publication Number
WO 2008/073729 A3

(51) International Patent Classification:
C08G 18/36 (2006.01)

(21) International Application Number:
PCT/US2007/086222

(22) International Filing Date:
3 December 2007 (03.12.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/874,213 11 December 2006 (11.12.2006) US

(71) Applicant (for all designated States except US): **DOW GLOBAL TECHNOLOGIES INC.** [US/US]; 2040 Dow Center, Midland, MI 48674 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PENG, Wei-Jun**

[US/US]; 3903 Morel Court, Midland, MI 48642 (US). **BABB, David** [US/US]; 202 Live Oak Lane, Lake Jackson, TX 77566 (US). **SANDERS, Aaron** [US/US]; 3503 Corbett Court, Missouri City, TX 77459 (US). **DERS-TINE, Christopher** [US/US]; 2369 North Old Pine Trail, Midland, MI 48642 (US). **JIMENEZ, Jorge** [CR/US]; 118 Spanish Oak Circle, Lake Jackson, TX 77566 (US). **LYSENKO, Zenon** [CA/US]; 214 West Meadowbrook Drive, Midland, MI 48640 (US). **OLSON, Kurt** [US/US]; 9945 Garner Lane, Freeland, MI 48623 (US). **PHILLIPS, Joe** [US/US]; 108 Zinnia, Lake Jackson, TX 77566 (US). **ROESCH, Brian** [US/US]; 103 Betsy Rawls Drive, Middletown, DE 19709 (US). **SCHROCK, Alan** [US/US]; 56 Spanish Oak Court, Lake Jackson, TX 77566 (US).

(74) Agent: **ZUCKERMAN, Marie**; 2030 Dow Center, Midland, Michigan 48674 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG,

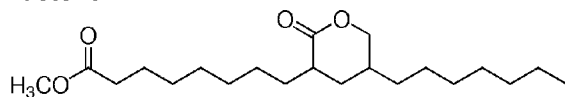
[Continued on next page]

(54) Title: ALDEHYDE AND ALCOHOL COMPOSITIONS DERIVED FROM SEED OILS

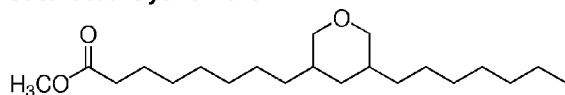
Lactol



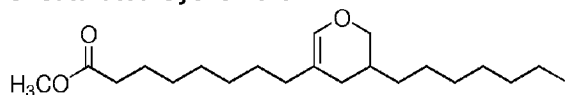
Lactone



Saturated Cyclic Ether



Unsaturated Cyclic Ether



(57) Abstract: An aldehyde composition containing a mixture of mono-formyl-, diformyl-, and triformyl-substituted fatty acids and/or fatty acid esters having a di-aldehyde/tri-aldehyde weight ratio of less than 5/1 and an average functionality number from greater than 0.96 to less than 1.26. A monomer alcohol composition containing a mixture of mono-hydroxymethyl-, dihydroxymethyl-, and trihydroxymethyl-substituted fatty acids and/or fatty acid esters having a diol/triol weight ratio of less than 5/1 and an average functionality number from greater than 0.90 to less than 1.20. The monomer alcohol can be converted into an oligomeric polyol for use in the manufacture of polyurethane flexible foams.

WO 2008/073729 A3



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

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

18 December 2008

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/086222

A. CLASSIFICATION OF SUBJECT MATTER
INV. C08G18/36

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)
C08G C07C

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2004/096744 A (DOW GLOBAL TECHNOLOGIES) 11 November 2004 (2004-11-11) cited in the application page 1, line 24 - page 11, line 32; claims 1-34; example 16	1, 2, 4-20
X	EP 0 711 748 A (HOECHST) 15 May 1996 (1996-05-15) cited in the application page 5, line 32 - line 56; claims 1-6; example 8	1, 4, 7, 9, 12, 15, 17
A	WO 2004/096883 A (DOW GLOBAL TECHNOLOGIES) 11 November 2004 (2004-11-11) page 1, line 29 - page 9, line 2; claims 1-35; examples	18-20

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.
- *Z* document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

24 October 2008

03/11/2008

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

Bourgonje, Andreas

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/086222

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2004096744	A	11-11-2004	BR PI0410529 A	20-06-2006
			CA 2523433 A1	11-11-2004
			CN 1780808 A	31-05-2006
			EP 1620387 A2	01-02-2006
			US 2006193802 A1	31-08-2006
EP 0711748	A	15-05-1996	AT 168983 T	15-08-1998
			AU 692935 B2	18-06-1998
			AU 3775395 A	23-05-1996
			BR 9505148 A	21-10-1997
			CA 2162083 A1	13-05-1996
			CN 1129694 A	28-08-1996
			DE 4440552 A1	15-05-1996
			DK 711748 T3	09-11-1998
			ES 2121613 T3	01-12-1998
			FI 955328 A	13-05-1996
			GR 3027626 T3	30-11-1998
			JP 2977749 B2	15-11-1999
			JP 8231467 A	10-09-1996
			PL 311251 A1	13-05-1996
ZA 9509323 A	29-05-1996			
WO 2004096883	A	11-11-2004	AR 060834 A2	16-07-2008
			AT 339458 T	15-10-2006
			AU 2004234373 A1	11-11-2004
			CA 2524887 A1	11-11-2004
			DE 602004002403 T2	05-04-2007
			EP 1627003 A1	22-02-2006
			MX PA05012148 A	10-02-2006