



(51) International Patent Classification:

G11C 29/44 (2006.01) C09J 163/00 (2006.01)
C08G 59/62 (2006.01)

(21) International Application Number:

PCT/US2013/021861

(22) International Filing Date:

17 January 2013 (17.01.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/613,508 21 March 2012 (21.03.2012) US

(71) Applicant: DOW GLOBAL TECHNOLOGIES LLC
[US/US]; 2040 Dow Center, Midland, MI 48674 (US).

(72) Inventor: LUTZ, Andreas; Eichplaetz 12, CH-8854 Gal-
genen (CH).

(74) Agent: XU, Hong; The Dow Chemical Company, Intellec-
tual Property, P. O. Box 1967, Midland, Michigan 48674
(US).

(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, BN, 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, PA, 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, 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 international search report:

16 January 2014

(54) Title: WASH-OFF RESISTANT EPOXY ADHESIVE COMPOSITION AND PRE-GELLED ADHESIVE

(57) Abstract: An epoxy adhesive composition is provided that has superior wash-off resistance after pre-gelling, and may be used, e.g., in manufacturing processes, e.g., in the automobile industry. The compositions comprise an epoxy resin, a gelling agent, and a phenolic agent, and may optionally comprise other components. Methods of making and using the compositions are also provided.



INTERNATIONAL SEARCH REPORT

International application No
PCT/US2013/021861

A. CLASSIFICATION OF SUBJECT MATTER
INV. C08G59/62 C09J163/00 G11C29/44
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)
C08G C09J

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2010/098950 A1 (DOW GLOBAL TECHNOLOGIES INC [US]; LUTZ ANDREAS [CH]; SCHNEIDER DANIEL) 2 September 2010 (2010-09-02)	1-16
Y	page 15, line 1 - line 3 page 18; table 1 page 10, line 24 - line 25 -----	9-13
X	US 2008/319105 A1 (LUTZ ANDREAS [CH] ET AL) 25 December 2008 (2008-12-25)	1-8, 14-16
Y	page 4, paragraph 50 - paragraph 53 page 6; examples 1-10; table 1 claims 1,15 -----	9-13
X	WO 2005/007766 A1 (DOW GLOBAL TECHNOLOGIES INC [US]; LUTZ ANDREAS [CH]; ROHRER PAUL [CH];) 27 January 2005 (2005-01-27)	1-8, 14-16
Y	page 18, line 19 - page 19, line 2 -----	9-13
	-/--	

☒ 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 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

6 November 2013

Date of mailing of the international search report

27/11/2013

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

Mill, Sibel

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2013/021861

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2010/019539 A2 (DOW GLOBAL TECHNOLOGIES INC [US]; LUTZ ANDREAS [CH]; SCHNEIDER DANIEL) 18 February 2010 (2010-02-18)	1-5
Y	page 17, line 31 - page 18, line 8 claims 8,9 page 16, line 15 - line 18 -----	6-14
X	US 2009/048370 A1 (LUTZ ANDREAS [CH] ET AL) 19 February 2009 (2009-02-19) page 6; table 1 page 7; table 4 claims 1,10 -----	1-5
Y	US 2003/187154 A1 (SCHOENFELD RAINER [DE] ET AL) 2 October 2003 (2003-10-02) claims 9,14 -----	10-14
Y	DATABASE WPI Week 200654 Thomson Scientific, London, GB; AN 2006-525853 XP002715951, & JP 2006 199851 A (NIPPON KAYAKU KK) 3 August 2006 (2006-08-03) abstract -----	1-16
Y	-& JP 2006 199851 A (NIPPON KAYAKU KK) 3 August 2006 (2006-08-03) claims 1-3 paragraph [0041] -----	1-16
Y	US 2010/310878 A1 (HOFSTETTER DAVID [CH] ET AL) 9 December 2010 (2010-12-09) cited in the application page 7, paragraph 118 - paragraph 119 claims 1,13 -----	1-16

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2013/021861

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2010098950 A1	02-09-2010	CN 102333837 A EP 2401339 A1 JP 2012519220 A KR 20110132399 A US 2011297317 A1 WO 2010098950 A1	25-01-2012 04-01-2012 23-08-2012 07-12-2011 08-12-2011 02-09-2010
US 2008319105 A1	25-12-2008	CN 101679579 A EP 2344561 A2 JP 2010530472 A KR 20100049545 A US 2008319105 A1 WO 2008157571 A2	24-03-2010 20-07-2011 09-09-2010 12-05-2010 25-12-2008 24-12-2008
WO 2005007766 A1	27-01-2005	BR PI0412062 A CA 2529737 A1 CN 1816606 A CN 101691418 A EP 1646698 A1 JP 2007521377 A JP 2013047340 A KR 20060033901 A US 2005070634 A1 WO 2005007766 A1	05-09-2006 27-01-2005 09-08-2006 07-04-2010 19-04-2006 02-08-2007 07-03-2013 20-04-2006 31-03-2005 27-01-2005
WO 2010019539 A2	18-02-2010	CN 102119201 A EP 2313470 A2 JP 2011530648 A KR 20110045046 A US 2011126981 A1 WO 2010019539 A2	06-07-2011 27-04-2011 22-12-2011 03-05-2011 02-06-2011 18-02-2010
US 2009048370 A1	19-02-2009	CN 101778901 A EP 2181156 A1 JP 2010536953 A KR 20100055478 A US 2009048370 A1 WO 2009025991 A1	14-07-2010 05-05-2010 02-12-2010 26-05-2010 19-02-2009 26-02-2009
US 2003187154 A1	02-10-2003	AR 028532 A1 AT 267237 T AU 1358502 A CA 2405584 A1 CN 1422316 A EP 1272587 A1 ES 2221909 T3 JP 2004515565 A MX PA02008380 A US 2003187154 A1 WO 0194492 A1	14-05-2003 15-06-2004 17-12-2001 08-10-2002 04-06-2003 08-01-2003 16-01-2005 27-05-2004 13-12-2002 02-10-2003 13-12-2001
JP 2006199851 A	03-08-2006	JP 4577716 B2 JP 2006199851 A	10-11-2010 03-08-2006
JP 2006199851 A	03-08-2006	JP 4577716 B2 JP 2006199851 A	10-11-2010 03-08-2006
US 2010310878 A1	09-12-2010	AT 484547 T	15-10-2010

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2013/021861

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		CN 101925652 A	22-12-2010
		EP 2085426 A1	05-08-2009
		JP 2011514394 A	06-05-2011
		KR 20110005780 A	19-01-2011
		US 2010310878 A1	09-12-2010
		WO 2009095484 A1	06-08-2009
