US009410013B2

(12) **United States Patent**
Leimenstoll et al.

(10) **Patent No.: US 9,410,013 B2**
(45) **Date of Patent: Aug. 9, 2016**

(54) **HOT MELTS**

(75) Inventors: **Marc Leimenstoll**, Hilden (DE); **Sebastian Doerr**, Duesseldorf (DE); **Christos Karafilidis**, Leverkusen (DE); **Peter Reichert**, Dormagen (DE)

(73) Assignee: **Covestro Deutschland AG** (DE)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 969 days.

(21) Appl. No.: **12/936,068**

(22) PCT Filed: **Mar. 27, 2009**

(86) PCT No.: **PCT/EP2009/002259**

§ 371 (c)(1),
(2), (4) Date: **Oct. 1, 2010**

(87) PCT Pub. No.: **WO2009/121527**

PCT Pub. Date: **Oct. 8, 2009**

(65) **Prior Publication Data**

US 2011/0028582 A1 Feb. 3, 2011

(30) **Foreign Application Priority Data**

Apr. 3, 2008 (DE) 10 2008 017 036

(51) **Int. Cl.**

C08G 18/70	(2006.01)
C08G 18/42	(2006.01)
C08G 18/76	(2006.01)
C08K 5/21	(2006.01)

(52) **U.S. Cl.**

CPC ***C08G 18/706*** (2013.01); ***C08G 18/4202*** (2013.01); ***C08G 18/4216*** (2013.01); ***C08G 18/4238*** (2013.01); ***C08G 18/7671*** (2013.01); ***C08K 5/21*** (2013.01); *C08G 2170/20* (2013.01)

(58) **Field of Classification Search**

CPC . C08J 9/008; C08G 18/4202; C08G 18/4216; C08G 18/4238; C08G 18/706; C08G 18/7671; C08G 2170/20; C08K 5/21; C08L 75/04

USPC 528/44, 59, 61, 68, 78; 521/134, 137, 521/130, 159, 172; 560/25, 26, 115, 158; 564/44, 45

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,019,638	A	5/1991	Müller et al.	
5,922,809	A *	7/1999	Bhat et al.	525/131
6,767,958	B2	7/2004	Laas et al.	
7,659,338	B2	2/2010	Musch et al.	
7,919,552	B2 *	4/2011	Grahl	C08G 18/2825 524/385
2003/0022973	A1 *	1/2003	Hung et al.	524/270
2005/0137309	A1 *	6/2005	Musch	C08G 18/0823 524/432
2005/0239956	A1 *	10/2005	Spyrou	C08G 18/1875 524/589
2008/0182928	A1 *	7/2008	Grahl	C08G 18/2825 524/284
2008/0182946	A1 *	7/2008	Dorr	C08G 18/0866 525/452
2008/0185098	A1 *	8/2008	Wu et al.	156/331.4

FOREIGN PATENT DOCUMENTS

CA	2253119	A1	5/1999
DE	2446440	A1	4/1976
DE	3827224	A1	2/1990
DE	102007004769	A1	8/2008
EP	0354527	A2	2/1990
EP	0916647	A2	5/1999
EP	1903066	*	3/2008
GB	1462597	A	1/1977
WO	WO-01/88006	A1	11/2001
WO	WO-2005/063873	A1	7/2005
WO	WO-2005/066256	A1	7/2005

* cited by examiner

Primary Examiner — John Cooney

(74) *Attorney, Agent, or Firm* — Drinker Biddle & Reath LLP

(57) **ABSTRACT**

The present invention relates to reactive preparations, comprising isocyanate-functional polyurethane building blocks, to a method for the production thereof, and to the use thereof as or in adhesives having high initial strength and high mechanical strength.

9 Claims, No Drawings