US009636293B2

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

(10) **Patent No.: US 9,636,293 B2**
(45) **Date of Patent: *May 2, 2017**

(54) **LATEX NAIL COMPOSITIONS HAVING LOW AMOUNTS OF PHOTO-INITIATOR**

(71) Applicant: **L'ORÉAL**, Paris (FR)

(72) Inventors: **Aline Aude Guimont**, Westfield, NJ (US); **Chunhua Li**, Hillsborough, NJ (US); **Xianzhi Zhou**, Millburn, NJ (US); **Hy Si Bui**, Piscataway, NJ (US); **Jean-Thierry Simonnet**, Rueil Malmaison (FR)

(73) Assignee: **L'ORÉAL**, Paris (FR)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 105 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **14/512,995**

(22) Filed: **Oct. 13, 2014**

(65) **Prior Publication Data**

US 2016/0101038 A1 Apr. 14, 2016

(51) **Int. Cl.**

A61K 8/00	(2006.01)
A61Q 3/02	(2006.01)
A61K 8/87	(2006.01)
A61K 8/81	(2006.01)
A61K 8/55	(2006.01)

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

CPC ***A61K 8/87*** (2013.01); ***A61K 8/55*** (2013.01); ***A61K 8/8141*** (2013.01); ***A61K 8/8152*** (2013.01); ***A61Q 3/02*** (2013.01); *A61K 2800/42* (2013.01); *A61K 2800/43* (2013.01); *A61K 2800/54* (2013.01); *A61K 2800/594* (2013.01); *A61K 2800/81* (2013.01)

(58) **Field of Classification Search**

CPC A61K 8/87; A61K 8/8157; A61K 8/8141; A61K 8/8152; A61K 8/55; A61Q 3/06; A61Q 3/02

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,928,113	A *	12/1975	Rosenberg	A61K 8/87 132/73
4,324,744	A	4/1982	Lechtken et al.	
4,737,593	A	4/1988	Ellrich et al.	
5,435,994	A	7/1995	Valenty	
5,456,905	A	10/1995	Valenty	
5,534,559	A	7/1996	Leppard et al.	
5,538,717	A	7/1996	La Poterie	
5,637,292	A	6/1997	Thomas	
5,672,647	A	9/1997	de La Poterie et al.	
5,731,134	A	3/1998	Honan et al.	
5,942,290	A	8/1999	Leppard et al.	
6,011,078	A	1/2000	Reich et al.	
6,020,528	A	2/2000	Leppard et al.	
6,080,413	A	6/2000	Ellingson et al.	
6,123,931	A	9/2000	Ellingson et al.	
6,238,679	B1 *	5/2001	de la Poterie	A61K 8/37 424/401
6,297,950	B1	10/2001	Erwin	
6,306,375	B1	10/2001	Ellingson et al.	
6,372,201	B1	4/2002	Leuridan et al.	
6,391,964	B1 *	5/2002	Tartaglia	A61K 8/8152 206/568
6,481,444	B1 *	11/2002	Lilley	A45D 29/00 132/200
6,486,226	B2	11/2002	Al-Akhdar et al.	
6,486,228	B2	11/2002	Kohler et al.	
6,803,394	B2	10/2004	Lilley et al.	
7,037,953	B2	5/2006	Chatterjee et al.	
7,375,144	B2	5/2008	Gilmer	
7,445,770	B2	11/2008	Berezkin et al.	
8,088,414	B2	1/2012	Siepmann et al.	
8,114,938	B2	2/2012	Berezkin et al.	
8,263,677	B2	9/2012	Conger et al.	
8,367,742	B2	2/2013	Vu et al.	
8,399,537	B2	3/2013	Conger et al.	
8,492,454	B2	7/2013	Vu et al.	
8,541,482	B2	9/2013	Vu et al.	
8,846,011	B2	9/2014	Kojima et al.	
2008/0081054	A1	4/2008	Ilekti	
2010/0088776	A1	4/2010	Bauer et al.	
2010/0160475	A1	6/2010	Stizmann et al.	
2011/0060065	A1	3/2011	Vu et al.	
2011/0081306	A1	4/2011	Vu et al.	
2011/0082228	A1	4/2011	Vu	
2011/0182838	A1	7/2011	Vu et al.	
2011/0274633	A1	11/2011	Vu et al.	
2012/0199151	A1	8/2012	Haile	
2012/0276028	A1	11/2012	Kojima et al.	
2013/0034512	A1	2/2013	Kozacheck et al.	
2013/0078207	A1	3/2013	Sanbonmatsu	
2013/0199560	A1	8/2013	Haile	
2015/0190331	A1 *	7/2015	Chang	A61K 8/8152 424/61

FOREIGN PATENT DOCUMENTS

JP	2011020956	A	2/2011
WO	2012/163851	A2	12/2012

(Continued)

OTHER PUBLICATIONS

DSM Bright Science, Brighter Living, Product Data Sheet, NeoRad R-452, Sep. 13, Version: 030370/4.0; www.dsmcoatingresins.com.

(Continued)

Primary Examiner — Lakshmi Channavajjala

(74) *Attorney, Agent, or Firm* — Oblon, McClelland, Maier & Neustadt, L.L.P.

(57) **ABSTRACT**

A nail compositions comprising at least one photo-curable polymer dispersed in water (latex), at least one non-photo-curable polymer dispersed in water (latex), at least one photo-initiator, optionally at least one plasticizer, optionally a colorant, and water are provided. Also provided are nail composition systems and kits comprising the nail compositions of the invention together with a base coat composition and/or a top coat composition.

17 Claims, No Drawings