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(54) **DISSOLVABLE FILMS CONTAINING HIGH CONCENTRATIONS OF NONIONIC SURFACTANTS SUCH AS POLYSORBATES TO ENHANCE HIGH SOLID LOADINGS**

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(58) **Field of Classification Search**

USPC 424/49, 401

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,022,880	A	5/1977	Vinson et al.	
4,820,506	A	4/1989	Kleinberg et al.	
4,839,157	A	6/1989	Mei-King Ng et al.	
4,900,552	A	2/1990	Sanvordeker et al.	
5,047,244	A	9/1991	Sanvordeker et al.	
5,695,746	A	12/1997	Garlick, Jr. et al.	
5,700,478	A	12/1997	Biegajski et al.	
5,948,430	A	9/1999	Zerbe et al.	
6,231,957	B1	5/2001	Zerbe et al.	
6,241,974	B1	6/2001	White, Jr. et al.	
6,315,986	B1	11/2001	Wong et al.	
6,596,298	B2	7/2003	Leung et al.	
6,669,929	B1	12/2003	Boyd et al.	
2003/0053962	A1	3/2003	Zerbe et al.	
2004/0115137	A1*	6/2004	Verrall et al.	424/48
2005/0019273	A1	1/2005	Boyd et al.	
2005/0106112	A1	5/2005	Boyd et al.	
2007/0020201	A1	1/2007	Boyd et al.	
2007/0140985	A1	6/2007	Boyd et al.	
2007/0218114	A1	9/2007	Duggan et al.	
2007/0231441	A1	10/2007	Verrall et al.	
2008/0160056	A1	7/2008	Boyd et al.	

FOREIGN PATENT DOCUMENTS

CN	1812762	8/2006
CN	1913862	2/2007
CN	1925835	3/2007
RU	2006125452	1/2008
WO	WO 00/56276	9/2000

OTHER PUBLICATIONS

ISR and Written Opinion for PCT/US2009/066727 mailed Oct. 4, 2010.

Written Opinion for PCT/US2009/066727 mailed Feb. 22, 2012.

* cited by examiner

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(57) **ABSTRACT**

An oral care composition and method are described in which the composition includes a film or a plurality of film fragments entrained in a carrier. The film or plurality of film fragments comprises a relatively high concentration of nonionic surfactants. The composition and methods provide benefits including higher active material loading in the film formula for improved efficacy, and a reduced amount of film needed in a product, which at the same time delivering comparable or improved efficacy with lower loading of the film in the composition.

18 Claims, No Drawings