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(54) **ORAL CARE COMPOSITIONS**

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(58) **Field of Classification Search**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,959,458	A	5/1976	Agricola	
4,051,234	A	9/1977	Gieske	
4,193,988	A *	3/1980	Forward et al.	424/52
4,326,053	A	4/1982	Kang	
4,377,636	A	3/1983	Kang	
4,385,123	A	5/1983	Kang	
4,503,084	A	3/1985	Baird	
4,563,366	A	1/1986	Baird	
5,176,899	A *	1/1993	Montgomery	424/50
5,190,747	A	3/1993	Sekiguchi et al.	
5,190,927	A	3/1993	Chang	
5,328,682	A *	7/1994	Pullen et al.	424/49
5,628,985	A *	5/1997	Stiller et al.	424/49
5,780,046	A *	7/1998	Humber et al.	424/440
5,833,956	A *	11/1998	Gorlin et al.	424/49
5,885,556	A *	3/1999	Lukacovic et al.	424/57
6,045,813	A	4/2000	Ferguson	
6,106,815	A	8/2000	Kang	
6,121,315	A	9/2000	Nair	
6,602,996	B1	8/2003	Sworn	
6,682,722	B2	1/2004	Majeti	
6,797,683	B2	9/2004	Shana'a	
7,084,104	B2	8/2006	Martin	
7,087,650	B2	8/2006	Lennon	
7,601,338	B2	10/2009	Masters	
2003/0100078	A1	5/2003	Harding	
2003/0118522	A1*	6/2003	Leinen et al.	424/54
2004/0047822	A1	3/2004	Zamudo Tena	
2005/0266138	A1	12/2005	Yuan	
2006/0093562	A1	5/2006	Kellar et al.	

FOREIGN PATENT DOCUMENTS

EP	2281546	A2	2/2011
JP	H08-333226	A	12/1996
JP	2003-530336	A	10/2003
JP	2004300120	A *	10/2004
JP	2006502141		1/2006
JP	2009510192		3/2009
JP	2009084277		4/2009
WO	WO 93/08792		5/1993
WO	WO 9846715		10/1998
WO	WO 99/09951	A1	3/1999

* cited by examiner

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(57) **ABSTRACT**

The present invention relates generally to oral care compositions, and more specifically to oral care compositions suitable for cleaning the oral cavity. Methods of use are also disclosed.

20 Claims, No Drawings