



US00RE39218E

(19) **United States**
 (12) **Reissued Patent**
 Mellul et al.

(10) **Patent Number:** **US RE39,218 E**
 (45) **Date of Reissued Patent:** **Aug. 1, 2006**

(54) **ANHYDROUS AND WATER-RESISTANT COSMETIC COMPOSITIONS**
 (75) Inventors: **Myriam Mellul**, L'Hay-les-Roses (FR);
Paul Thau, Berkely Heights, NJ (US);
Paul Fehn, Westfield, NJ (US); **Carlos Pinzon**, New Milford, NJ (US)
 (73) Assignee: **L'Oreal** (FR)
 (21) Appl. No.: **09/987,885**
 (22) Filed: **Nov. 16, 2001**

Related U.S. Patent Documents

Reissue of:

(64) Patent No.: **5,985,297**
 Issued: **Nov. 16, 1999**
 Appl. No.: **09/138,379**
 Filed: **Aug. 24, 1998**

U.S. Applications:

(63) Continuation of application No. 08/882,298, filed on Jun. 25, 1997, now Pat. No. 5,849,316, which is a continuation of application No. 08/538,046, filed on Oct. 2, 1995, now abandoned.

(30) Foreign Application Priority Data

Sep. 30, 1994 (FR) 94-11743

(51) **Int. Cl.**
A61Q 1/04 (2006.01)
A61Q 1/06 (2006.01)
A61Q 1/12 (2006.01)
A61Q 5/00 (2006.01)
 (52) **U.S. Cl.** **424/401**; 424/59; 424/62;
 424/70.1; 424/78.05; 514/844; 514/944
 (58) **Field of Classification Search** 424/401,
 424/59, 62, 70.1, 78.03; 514/844, 944
 See application file for complete search history.

(56) References Cited**U.S. PATENT DOCUMENTS**

2,230,063 A 1/1941 Klimist
 2,548,970 A 4/1951 Grate
 2,566,722 A 9/1951 Friedberg
 2,578,210 A 12/1951 Silva
 2,676,182 A 4/1954 Daudt et al.
 2,678,878 A 5/1954 Stewart
 2,678,893 A 5/1954 Kauppi
 2,681,878 A 6/1954 Kauppi
 3,541,205 A 11/1970 Hardigan et al.
 3,600,186 A 8/1971 Mattson et al.
 3,642,635 A 2/1972 MacLeod
 3,646,214 A 2/1972 Katz
 3,836,647 A 9/1974 Lange
 3,857,805 A 12/1974 Prickril
 3,927,199 A 12/1975 Micchelli et al.
 4,005,195 A 1/1977 Jandacek
 4,005,196 A 1/1977 Jandacek et al.
 4,119,712 A 10/1978 Goldner et al.
 4,192,861 A 3/1980 Micchelli et al.
 4,283,384 A 8/1981 Jacquet et al.
 4,315,910 A 2/1982 Nowak, Jr. et al.
 4,409,203 A 10/1983 Gordon et al.

4,421,769 A 12/1983 Dixon et al.
 4,421,881 A 12/1983 Benkendorf et al.
 4,425,364 A 1/1984 Vanlerberghe et al.
 4,431,673 A 2/1984 Goldner et al.
 4,486,405 A 12/1984 Klein
 4,515,784 A 5/1985 Bogardus et al.
 4,534,961 A 8/1985 Liff
 4,574,082 A 3/1986 Tietjen et al.
 4,578,266 A 3/1986 Tietjen et al.
 4,601,757 A 7/1986 Brown et al.
 4,649,045 A 3/1987 Gaske et al.
 4,673,570 A 6/1987 Soldati
 4,678,663 A 7/1987 Scott et al.
 4,699,780 A 10/1987 Jennings et al.
 4,725,495 A 2/1988 Garbe et al.
 4,725,658 A 2/1988 Thayer et al.
 4,747,419 A 5/1988 Flynn et al.
 4,777,041 A 10/1988 Mercado
 4,792,444 A 12/1988 Fukasawa et al.
 4,795,631 A 1/1989 Sheehan
 4,797,272 A 1/1989 Linn et al.
 4,800,076 A 1/1989 Bhat et al.
 4,801,447 A 1/1989 Gum
 4,803,067 A 2/1989 Brunetta et al.
 4,826,828 A 5/1989 Wilmott et al.
 4,837,011 A 6/1989 Macchio et al.
 4,839,163 A 6/1989 Busch, Jr.

(Continued)

FOREIGN PATENT DOCUMENTS

DE 3744352 A1 7/1989
 DE 3837473 A1 5/1990
 DE 4025040 A1 2/1991
 EP 0005922 A1 12/1979
 EP 0133963 A2 3/1985
 EP 0133963 * 3/1985
 EP 0151984 A2 8/1985

(Continued)

OTHER PUBLICATIONS

Derwent Abstract of FR-A-2688134.*
 Arndt Schlosser et al., "Resins: The Other Kind of Silicones", *Cosmetics & Toiletries Magazine*, vol. 118, No. 8, Aug. 2003.
 Harry's *Cosmetology*, pp. 332-333 (Coloured Make-up Preparation), 7th Ed., Chemical Publishing Co., 1982.
 Amphomer—Polymer for Hard Holding Hair Fixative Formulations; National Starch and Chemical Company, Specialty Polymers.
 Leo, A.J., "Methods of Calculating Partition Coefficients", *Comprehensive Medicinal Chemistry*, (Eds., Hansch, Sammens, Taylor and Ransden), vol. 4, pp. 295-319, 1990.

(Continued)

Primary Examiner—Jyothsna Venkat
 (74) *Attorney, Agent, or Firm*—Finnegan, Henderson, Farabow, Garrett & Dunner LLP

(57) ABSTRACT

An anhydrous, water-resistant cosmetic composition comprising silicone-containing materials, fillers and pigments. This composition may be used as a make-up product or as a hair product.

24 Claims, No Drawings

US RE39,218 E

Page 2

U.S. PATENT DOCUMENTS

4,855,129 A	8/1989	Steinbach et al.	5,292,530 A	3/1994	McCrea et al.
4,873,078 A	10/1989	Edmundson et al.	5,302,380 A	4/1994	Castrogiovanni et al.
4,888,363 A	12/1989	Dulak et al.	5,302,382 A	4/1994	Kasprzak
4,897,261 A	1/1990	Yamazaki et al.	5,304,325 A	4/1994	Kaufmann et al.
4,904,698 A	2/1990	Adkins, Jr. et al.	5,306,498 A	4/1994	Vesperini et al.
4,935,228 A	6/1990	Finkenauer et al.	5,310,547 A	5/1994	Dunphy et al.
4,946,302 A	8/1990	Uchida	5,312,968 A	5/1994	O'Lenick, Jr. et al.
4,950,468 A	8/1990	Nakamura et al.	5,318,775 A	6/1994	Shore et al.
4,954,532 A	9/1990	Elliott et al.	5,324,506 A	6/1994	Calvo et al.
4,966,933 A	10/1990	Kawakami et al.	5,328,683 A	7/1994	Harashima
4,980,167 A	12/1990	Harashima et al.	5,330,747 A	7/1994	Krzysik
4,983,388 A	1/1991	Kuwata et al.	5,334,372 A	8/1994	Kawamata et al.
4,988,503 A	1/1991	Macchio et al.	5,338,536 A	8/1994	Thimineur et al.
4,992,477 A	2/1991	Geria	5,340,569 A	8/1994	Elliott et al.
4,994,264 A	2/1991	Verdon et al.	5,346,642 A	9/1994	Patel et al.
4,996,239 A	2/1991	Matravers	5,362,482 A	11/1994	Yoneyama et al.
5,002,762 A	3/1991	Bolich, Jr.	5,364,325 A	11/1994	Matthews
5,011,680 A	4/1991	Suzuki et al.	5,364,633 A	11/1994	Hill et al.
5,013,763 A	5/1991	Tubesing et al.	5,368,848 A	11/1994	Brazinsky et al.
5,015,469 A	5/1991	Yoneyama et al.	5,380,527 A	1/1995	Legrow et al.
5,023,075 A	6/1991	Macchio et al.	5,382,433 A	1/1995	Pahlck et al.
5,036,108 A	7/1991	Asahi et al.	5,385,730 A	1/1995	Ichinohe
5,045,309 A	9/1991	Dell' Aquila	5,387,417 A	2/1995	Rentsch
5,051,489 A	9/1991	O'Lenick, Jr.	5,389,365 A	2/1995	LeGrow et al.
5,053,221 A	10/1991	Robertson et al.	5,393,526 A	2/1995	Castro
5,061,481 A	10/1991	Suzuki et al.	5,397,566 A	3/1995	Thimineur et al.
5,063,057 A	11/1991	Spellman et al.	5,412,004 A	5/1995	Tachibana et al.
5,073,364 A	12/1991	Giezendanner et al.	5,413,792 A	5/1995	Ninomiya et al.
5,073,372 A	12/1991	Turner et al.	5,417,967 A	5/1995	Kawamata et al.
5,085,855 A	2/1992	Shore	5,430,082 A	7/1995	Bentz
5,085,856 A	2/1992	Dunphy et al.	5,446,114 A	8/1995	O'Lenick, Jr.
5,089,256 A	2/1992	Scheller et al.	5,451,610 A	9/1995	Krzysik
5,093,108 A	3/1992	Pappas et al.	5,462,737 A	10/1995	Pfleuger
5,093,111 A	3/1992	Baker et al.	5,466,457 A	11/1995	Schneider et al.
5,104,586 A	4/1992	Brand et al.	5,478,552 A	12/1995	Hasegawa
5,106,609 A	4/1992	Bolich, Jr. et al.	5,486,355 A	1/1996	Berschied, Jr.
5,106,611 A	4/1992	Forestier et al.	5,488,121 A	1/1996	O'Lenick, Jr.
5,106,625 A	4/1992	Yamamoto et al.	5,494,938 A	2/1996	Kawa et al.
5,108,736 A	4/1992	Schlossman	5,496,544 A	* 3/1996	Mellul et al. 428/78.03
5,118,496 A	6/1992	Herstein	5,500,138 A	3/1996	Bacon et al.
5,118,507 A	6/1992	Clement	5,500,154 A	3/1996	Bacon et al.
5,126,126 A	6/1992	Varaprath et al.	5,505,937 A	4/1996	Castrogiovanni et al.
5,141,741 A	8/1992	Isida et al.	5,512,272 A	4/1996	Krzysik
5,143,722 A	9/1992	Hollenberg et al.	5,589,165 A	12/1996	Yoshida et al.
5,143,723 A	9/1992	Calvo et al.	5,648,066 A	7/1997	Stepniewski
5,158,772 A	10/1992	Davis	5,665,364 A	9/1997	McAttee et al.
5,160,738 A	11/1992	Macaulay et al.	5,725,845 A	3/1998	Krog et al.
5,183,588 A	2/1993	Salerno et al.	5,738,841 A	4/1998	Mellul et al.
5,183,589 A	2/1993	Brunetta et al.	5,747,017 A	5/1998	Nichols et al.
5,196,187 A	3/1993	Nicoll et al.	5,800,816 A	9/1998	Brieva et al.
5,206,012 A	4/1993	Farer et al.	5,837,223 A	11/1998	Barone et al.
5,208,012 A	5/1993	Sudo et al.	5,849,316 A	* 12/1998	Mellul et al. 424/401
5,210,251 A	5/1993	Ohashi et al.	5,902,592 A	5/1999	Bara et al.
5,213,716 A	5/1993	Patel et al.	5,911,974 A	6/1999	Brieva et al.
5,213,799 A	5/1993	Göring et al.	5,925,337 A	7/1999	Arraudeau et al.
5,216,033 A	6/1993	Pereira et al.	5,965,112 A	10/1999	Brieva et al.
5,219,560 A	6/1993	Suzuki et al.	5,985,298 A	11/1999	Brieva et al.
5,223,559 A	6/1993	Arraudeau et al.	6,001,374 A	12/1999	Nichols
5,225,186 A	7/1993	Castrogiovanni et al.	6,010,709 A	1/2000	Nichols
5,234,682 A	8/1993	Macchio et al.	6,019,962 A	2/2000	Rabe et al.
5,238,678 A	8/1993	Shiozawa et al.	6,027,739 A	2/2000	Nichols
5,246,780 A	9/1993	Ferer et al.	6,036,947 A	3/2000	Barone et al.
5,260,401 A	11/1993	O'Lenick, Jr.	6,071,503 A	6/2000	Dreschsler et al.
5,262,087 A	11/1993	Tachibana et al.	6,074,654 A	6/2000	Dreschsler et al.
5,266,321 A	11/1993	Shukuzaki et al.	6,139,823 A	10/2000	Dreschsler et al.
5,268,175 A	12/1993	Bombardelli et al.	6,203,809 B1	3/2001	Nichols
5,271,934 A	12/1993	Goldberg et al.	6,274,152 B1	8/2001	Brieva et al.
5,283,062 A	2/1994	Elliott et al.	6,395,263 B1	5/2002	Nichols et al.
5,288,482 A	2/1994	Krzysik	6,464,964 B1	10/2002	Brieva et al.
5,288,493 A	2/1994	Martino et al.	6,509,009 B1	1/2003	Nichols et al.
			6,562,322 B1	5/2003	Brieva et al.

FOREIGN PATENT DOCUMENTS

EP	0179416	A2	4/1986
EP	0200839	A1	11/1986
EP	0205961	A2	12/1986
EP	0272832	A2	6/1988
EP	0 381 166	A2	8/1990
EP	0381166	A2	8/1990
EP	0381376	A3	8/1990
EP	0381376	A2	8/1990
EP	0 388 582	A2	9/1990
EP	0504966	A1	9/1992
EP	0515195	A1	11/1992
EP	0519727	A1	12/1992
EP	0521647	*	1/1993
EP	0548694	*	6/1993
EP	0590192	A1	4/1994
EP	0 590 192	A1	4/1994
EP	0602905	A2	6/1994
EP	0602905	A3	6/1994
EP	0610026	A1	8/1994
EP	0709083	A2	5/1996
EP	0748622	A1	12/1996
FR	2556940	A1	6/1985
FR	2638636	A1	5/1990
FR	2688134	*	9/1993
FR	2707485	A1	1/1995
GB	1476194		6/1977
GB	1476195		6/1977
GB	2027341	A	2/1980
GB	1569009		6/1980
GB	2107186	A	4/1983
GB	2197783	A	6/1988
GB	2197783	B	6/1988
GB	2198037	A	6/1988
GB	2211081	A	6/1989
GB	2211081	B	6/1989
GB	2274585	A	8/1994
GB	2294392		5/1995
JP	55-028906		2/1980
JP	59-172495	A	9/1984
JP	SHO 61-65809		4/1986
JP	61-65809	A	4/1986
JP	SHO 61-158913		7/1986
JP	61-161211		7/1986
JP	SHO 62-298512		12/1987
JP	63-230618		9/1988
JP	04-045155		2/1992
JP	05-065212		3/1993
JP	05-221829		8/1993
JP	06-024932		2/1994
JP	06-024933		2/1994
JP	06-072085		3/1994
JP	06-107518		4/1994
JP	06-118708		4/1994
JP	06166611	A	6/1994
JP	07-267820		10/1995
JP	08-26936		1/1996
JP	08-81335		3/1996
JP	08-092034		4/1996
JP	08-092036		4/1996
WO	WO 86/02001		4/1986
WO	WO 91/08733		6/1991
WO	WO 92/19215		11/1992
WO	WO 96/19185		6/1996
WO	WO 96/40044		12/1996
WO	WO 97/01321		1/1997
WO	WO 97/17057		5/1997
WO	WO 97/17058		5/1997

OTHER PUBLICATIONS

Mark, J.E., *Physical Properties of Polymers Handbook*, AIP Press., Amer. Inst. Of Physics, Chap. 16, pp. 227-239.

Vaughan, C.D., "Solubility Effects in Product, Package, Penetration and Preservation", *Cosmetics & Toiletries*, vol. 103, pp. 47-69, 1988.

General Electric, GE Silicones, Patent Technology, 7 pp.

General Electric, GE Silicones, Preliminary Data Sheet, 4 pp.

Abstract: JP 63230618, Sep. 27, 1988.

Abstract: JP 6107518, Apr. 19, 1994.

Abstract: JP 55028906, Feb. 29, 1980.

Abstract: JP 62298512, Dec. 12, 1987.

WP Index 84-210426, Abstract JP 59122415.

Von Nostrand Reinhold Co., "*Hawleys Condensed Chemical Dictionary*," (Richard J. Lewis, Sr. res. 12th ed.), 1993, p. 635.

McGraw-Hill Book Co., "*McGraw-Hill Dictionary of Chemistry*," (Sybil P. Parker ed.), 1984, p. 319.

The Cosmetic, Toiletry and Fragrance Association, "CTFA Ingredient Handbook," (John A. Wenninger 7 G.N. McEwen, Jr. eds.) 1988, p. 213.

Al Disapio and Petrina Fridd, "*Silicones: use of substantive properties on skin and hair*", International Journal of Cosmetic Science, 10, 1988, pp. 75-89.

Skin Care by Dow Corning, Formulary of Product Applications, 1981.

Japanese Patent Abstract JP 59122415 Jul. 1984.

Dow Corning Corporation—Material Safety Data Sheet Jun. 1994.

International Cosmetic Ingredient Dictionary and Handbook, vol. 1, p. 1434.

English language Derwent Abstract of DE 1 913 569.

English language Derwent Abstract of EP 0 255 655 A2.

European Patent Office abstract and family listing of EP 0 255 655 A2.

English language Derwent Abstract of EP 0 268 950 A2.

European Patent Office abstract and family listing of EP 0 268 950 A2.

English language Derwent Abstract of FR 2 556 940 A.

English translation of JP 60-255714 A.

English translation of JP 61-161211 A.

English language abstract of JP 62-061911 A from Patent Abstracts of Japan.

English translation of JP 62-238212 A.

English translation of JP 62-298512 A.

English translation of JP 63-183516 A.

English translation of JP 01-143816 A.

English translation of JP 01-168607 A.

English translation of JP 01-250307 A.

English translation of JP 01-283209 A.

English translation of JP 05-32527 A.

English translation of JP 06-24932 A.

English translation of JP 07-258030 A.

English language Derwent Abstract of WO 91/12793 A1.

European Patent Office abstract and family listing of WO 91/12793 A1.

English language Derwent Abstract of WO 93/17660 A1.

European Patent Office abstract and family listing of WO 93/17660 A1.

English translation of CH 317302.

English translation of DE 1 012 730.

English translation of DE 967 031.

English translation of DE 1 018 194.

US RE39,218 E

Page 4

English translation of DE 968 535.

English translation of FR 1 301 966.

English language abstract of JP 59-172495 A from Patent Abstracts of Japan.

English language abstract of JP 61-65809 A from Patent Abstracts of Japan.

English language abstract of JP 07-267820 A from Patent Abstracts of Japan.

English language abstract of JP 08-26936 A from Patent Abstracts of Japan.

English language abstract of JP 08-81335 A from Patent Abstracts of Japan.

Origins Sunny Disposition, product labeling, Oct. 1993.

* cited by examiner

ANHYDROUS AND WATER-RESISTANT COSMETIC COMPOSITIONS

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.

This is a continuation of application Ser. No. 08/882,298, filed Jun. 25, 1997 now U.S. Pat. No. 5,849,316, which is a continuation of application Ser. No. 08/538,046, filed Oct. 2, 1995, now abandoned.

The invention is directed to anhydrous and water-resistant make-up compositions comprising, inter alia, at least one silicone gum.

Water-resistant compositions in water-in-oil or water-in-silicone emulsion form are known in the prior art. The use of such emulsions relies on the fact that after spreading, the water evaporates and the oil or the silicone remains in contact with the skin, giving a water-resistant make-up. However, the application of such compositions has the drawback of leaving the skin with an oily appearance and of giving a greasy feel. The result obtained after application is not really natural, and the make-up shines or becomes shiny.

Another form of water-resistant cosmetic compositions is a composition in which fillers, including pigments, are introduced into a volatile or non-volatile silicone oil. The major drawback of this type of composition lies in the stretching effect on the skin, and in the unpleasant, dry sensation which appears after application. Furthermore, the effect sought in the use of such compositions containing pigments, namely a coloration of the skin, is often not achieved. The very nature of the composition is such that the distribution of the pigments in the composition after spreading is not homogeneous; the pigments spread more or less uniformly and tend to agglomerate in the pores and the folds in the skin. This effect runs counter to the search for a coloration close to that obtained naturally.

In all cases, the compositions obtained have faults both with regard to the stability and with regard to the homogeneity of the dispersion of the pigments. Solutions to these problems have been proposed, such as, for example, the use of water-soluble dyes or of dihydroxyacetone (DHA). In the case of water-soluble dyes, the make-ups obtained are not water-resistant and are not perfectly homogeneous.

Products using DHA are difficult to formulate, on account of the degradation and the incompatibility of DHA with many components usually used in compositions of this type. In addition, a major drawback of DHA, in its use in cosmetic compositions, lies in the development of unpleasant odors during ageing.

An object of the present invention is to provide solutions to the various problems encountered in the applications of the prior art and to propose a cosmetic composition possessing good water resistance and at the same time possessing good cosmetic properties.

The Inventors have been able to show, surprisingly and unexpectedly, that it is possible to obtain anhydrous, water-resistant make-up compositions which are highly homogeneous in particular with regard to spreading, by mixing together pigments and at least a large proportion of silicone gum and a silicone oil.

More particularly, a subject of the present invention is an anhydrous, water-resistant cosmetic composition preferably comprising from 2 to 50% of at least one silicone gum, from 10 to 90% of at least one silicone oil, from 0.5 to 15% of at least one pigment and from 0 to 30% of at least one filler.

The compositions according to the invention have the advantage of being stable over time. They are water-resistant

since they are anhydrous, and do not contain any water-soluble dyes or solvent. They also have good staying power and do not cause any pulling effect on the skin.

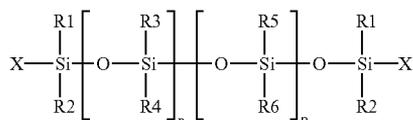
It has furthermore been observed, surprisingly, that the pigments present in the compositions according to the invention were dispersed therein in an unexpectedly very homogeneous manner. This thus has the additional advantage of giving a very uniform and very homogeneous make-up of the skin.

In the following text, the percentages will always be given by weight of active material relative to the total weight of the composition.

In the compositions according to the invention, the silicone gum is preferably present in a proportion ranging from 2% to 50%, more preferably ranging from 4 to 15% and still more preferably ranging from 6% to 9%.

The silicone gum preferably has a molecular weight not greater than 1,500,000. More preferably, the silicone gum has a molecular weight ranging from 200,000 to 1,000,000.

The silicon gum preferably corresponds to the formula:



in which:

R1, R2, R5, and R6 each independently represents an alkyl radical having from 1 to 6 carbon atoms;

R3 and R4 each independently represents an alkyl radical having from 1 to 6 carbon atoms or an aryl radical;

X represents an alkyl radical having from 1 to 6 carbon atoms, a hydroxyl radical or a vinyl radical;

n and p are chosen so as to give the silicone gum a viscosity preferably of greater than 100,000 mPa s, and more preferably of greater than 500,000 mPa s.

In general, n and p may have values preferably ranging from 0 to 5000, and more preferably ranging from 0 to 3000.

As silicone gum which may be used according to (the invention, there may preferably be mentioned those for which:

the substituents R1 to R6 and X represent a methyl group, p=0 and n=2700, such as that sold under the name SE30 by the company General Electric;

the substituents R1 to R6 and X represent a methyl group, p=0 and n=2300, such as that sold under the name AK 500000 by the company Wacker;

the substituents R1 to R6 represent a methyl group, the substituent X represents a hydroxyl group, p=0 and n=2700, in solution at a concentration of 13% in cyclopentasiloxane, such as that sold under the name Q2-1401 by the company Dow Corning;

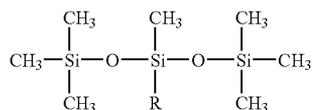
the substituents R1 to R6 represent a methyl group, the substituent X represents a hydroxyl group, p=0 and n=2700, in solution at a concentration of 13% in polydimethylsiloxane, such as that sold under the name Q2-1403 by the company Dow Corning;

the substituents R1, R2, R5, R6 and X represent a methyl group and the substituents R3 and R4 represent an aryl group and p and n are such that the molecular weight of the compound is 600,000, such as that sold under the name 761 by the company Rhone-Poulenc.

The composition according to the invention preferably also comprises at least one silicone oil, in a proportion preferably ranging from 10 to 90%.

3

A volatile or non-volatile silicone oil may be used. There may be mentioned, for example: cyclomethicones D4, D5, D6; polydimethylsiloxanes (PDMS) of viscosity preferably less than 100 mPa s and more preferably less than 10 mPa s; 5 alkylidimethicones such as X2-1731 from Dow coming corresponding to the formula:



in which R represents the radical $\text{C}_n\text{H}_{2n+1}$, with n having a value preferably ranging from 3 to 8. The silicone oil is Preferably present in the composition in a proportion ranging from 30 to 70%.

According to a preferred embodiment of the invention, the silicone oil and gum are used in the form of a homogeneous premix consisting of the silicone gum solubilized in the silicone oil.

The composition according to the invention preferably also comprises pigments, in a proportion ranging from 0.5 to 15%, and more preferably ranging from 2 to 8%.

The pigments may be white or coloured and inorganic or organic.

The pigments used in the composition according to the invention may or may not be coated.

U.S. Pat. No. 4,578,566, the disclosure of which is incorporated herein by reference, describes a pretreatment of pigments in order to make them hydrophobic, as a solution in order to introduce large proportions thereof into silicone-based compositions, and in order to ensure better dispersion thereof in the composition. This pretreatment is carried out by coating the pigments with a polysiloxane. Obviously, this pretreatment increases not only the preparation time of the compositions but also their cost.

As has been mentioned above, a particular advantage of the invention lies in the fact that the compositions according to the invention allow a homogeneous and stable dispersion to be obtained, even when pigments which have not been pre-coated are used.

Among the pigments which may preferably be used, there may be mentioned, without any limiting effect, titanium dioxide (TiO_2), zinc oxide (ZnO), zirconium dioxide (ZrO_2), black, yellow, red and brown iron oxides, cerium dioxide (CeO_2) or alternatively the organic pigments known as barium, strontium, calcium and aluminium lakes.

The composition according to the invention preferably contains 0 to 30% of fillers. These fillers may preferably be inorganic or synthetic and lamellar or non-lamellar.

Talc, mica, silica, kaolin, powders of nylon and of polyethylene, Telfon, starch, titanium mica, natural mother of pearl, boron nitride and hollow microspheres such as Expancel from Nobel Industrie may be mentioned.

The composition according to the invention may also comprise constituents usually used in cosmetic compositions of this type. These constituents are preferably chosen as a function of the desired cosmetic effect for the final composition, such as the covering power, the transparency, the matt quality and/or the satiny appearance.

There may be mentioned, without any limiting effects:

gelling agents, such as the modified clays known under the name bentone, which are sold by the company NL Industrie and used as they are or prepackaged in a gel; hydrophobic silica; waxes, for example polyethylene;

4

aluminum fatty salts. The percentage of gelling agent in the composition will be chosen depending on whether a supple or creamy formula is desired.

vitamins such as tocopherols and derivatives thereof, vitamin A and derivatives thereof, vitamin C and derivatives thereof such as the fatty esters, including the palmitate ester.

sunscreens such as octyl methoxycinnamate (Parsol MCX), 3-benzophenone (Uvinul M40), and butyl-methoxydibenzoylmethane (Parsol 1789).

oily materials such as plant oils, synthetic esters, lecithin, fragrances and essential oils.

The processes for the manufacture of the compositions according to the invention do not differ in any way from the processes conventionally used in cosmetics and with which those skilled in the art are fully familiar.

The compositions according to the invention may be in the form of a product for making up the skin, such as a foundation, a blusher, an eyeshadow or a lipstick, or even in the form of a hair product such as a styling make-up gel.

Examples of compositions according to the invention will now be given by way of example, without any limiting nature being implied.

EXAMPLE 1

Make-up gels having the following compositions (in g) were prepared:

	Compos. A	Compos. B	Compos. C
A) Polydimethylsiloxane at a concentration of 12-14% in cyclopentasiloxane (Q2-1401 from Dow)	67.50	67.50	67.50
B) TiO_2 + iron oxides*	3.36	3.36	3.36
C) cyclopentadimethylsiloxane	9.50	9.50	—
D) <u>Gelling agent</u>			
bentone gel IMP (NL Industrie)	18.64	19.14	—
bentone gel VS-5 PC (Steinerie Dubois)	—	28.14	28.14
E) <u>Fillers</u>			
Expancel microspheres	1.00	1.00	1.00
Teflon Ceri-dust	—	2.00	—

*Non-coated pigments

A) and B) were mixed together with a spatula and were passed 3 times through a cylinder mill. C), D) and E) were then added with moderate stirring.

Three formulae were obtained, which contained a large proportion of silicone-containing compounds and which made it possible to obtain, after spreading on the skin, a coloured and water-resistant make-up.

Although the pigments used were not pre-coated, the pigments were fully dispersed in the composition and the make-up obtained was homogeneous.

5

EXAMPLE 2

Self-tanning compositions having the following compositions (in g) were prepared:

	Compos. D	Compos. E	Compos. F
A) Polydimethylsiloxane at a concentration of 12-14% in cyclopentasiloxane (Q2-1401)	67.50	67.50	67.50
B) TiO ₂ + iron oxides*	3.36	3.36	3.36
C) Crosslinked silicone powder in a PDMS (KSG 16 from Shin Etsu)	20.00	10.00	10.00
bentone gel VS-5 PC (Dubois)	—	10.00	—
Unitwix (United Guardian)	—	—	—
D) Polyvinylidene	1.00	1.00	1.00
E) <u>Silicone oils</u>			
Alkyldimethicone X2-1731 (Dow)	—	—	5.00
Cyclopentadimethylsiloxane	qs 100	qs 100	qs 100

*Non-coated pigments

Thickened gelled creams were obtained, which were easy and pleasant to apply, and which gave a homogeneous and uniform coloration of natural appearance to the skin.

EXAMPLE 3

Water-resistant silicone-containing self-tanning compositions having the following compositions (in g) were prepared:

	Compos. G	Compos. H
A) Silicone oil (AK 500,000 from Wacker)	10.00	—
Polydimethylsiloxane at a concentration of 12-14% in cyclomethicone (Q2-1401 from Dow)	6.64	12.30
Polyphenylsiloxane at a concentration of 15% in cyclopentadimethylsiloxane (Silbione 71634 from Rhone-Poulenc)	—	40.00
B) TiO ₂ + iron oxides*	3.36	7.7
C) Crosslinked silicone powder (KSG 16 from Shin Etsu)	20.00	10.00
D) Gelling agent (Bentone gel VS38 from Rheox)	—	18.00
E) Silicone-containing resin beads (Tospearl 120 from Toshiba)	—	5.00
F) Cyclopentadimethylsiloxane	60.00	qs 100

*Non-coated pigments

Coloured and water-resistant self-tanning compositions were obtained in the form of gels.

6

EXAMPLE 4

A lipstick having the following composition was prepared:

Polydimethylsiloxane at a concentration of 12-14% in cyclomethicone (Q2-1401)	70.00
Crosslinked silicone powder in PDMS (KSG 16 from Shin Etsu)	10.00
Cyclopentadimethylsiloxane	10.00
Silicone-coated titanium oxide	2.83
Silicone-coated iron oxides	4.70
D&C red No. 7	0.47
Titanium mica	2.00

A fluid gelled cream of red-pink colour with an iridescent effect was obtained, which was smooth upon application and had good staying power.

EXAMPLE 5

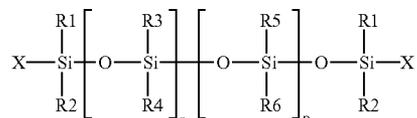
A screening tanning fluid having the following composition was prepared:

Polydimethylsiloxane at a concentration of 12-14% in cyclomethicone (Q2-1401)	70.00
UV screening agents Parsol MCX from BASF	7.00
Hydroxy-4-methoxybenzophenone	2.00
FINSOLV TN (C ₁₂ -C ₁₅ alkyl benzoate) from Finetax	9.00
Jjoba oil	1.00
α-tocopheryl acetate	1.00
Ethanol	4.70
Fragrance	0.30
Crosslinked silicone powder in PDMS (KSG 16 from Shin Etsu)	10.00
TiO ₂ + iron oxides (non-coated)	1.70

A shiny, smooth brown-coloured tanning fluid was obtained, which was easy to apply and gave a homogeneous and uniform coloration of natural appearance to the skin.

What is claimed is:

[1. A cosmetic composition comprising from 2% to 50% of at least one silicone gum, from 10% to 90% of at least one silicone oil, from 0.5% to 15% of at least one pigment, and from 0 to 30% of at least one filler, wherein said at least one silicone gum is of the formula:



in which

R1, R2, R5 and R6 each independently represents an alkyl radical having from 1 to 6 carbon atoms;

R3 and R4 each independently represents an alkyl radical having from 1 to 6 carbon atoms or an aryl radical;

X represents an alkyl radical having from 1 to 6 carbon atoms, a hydroxyl radical or a vinyl radical; and

n and p are selected so as to give said silicone gum a viscosity of greater than 100,000 mPa s, and

wherein said composition is anhydrous and water-resistant, and further wherein said composition has cosmetic properties.]

[2. A composition according to claim 1, wherein said at least one silicone gum is present in an amount which ranges from 4% to 15% by weight relative to the total weight of said composition.]

7

[3. A composition according to claim 2, wherein said at least one silicone gum is present in an amount which ranges from 6% to 9%, by weight relative to the total weight of said composition.]

[4. A composition according to claim 1, wherein n and p have values ranging from 0 to 5000.]

[5. A composition according to claim 4, wherein n and p have values ranging from 0 to 3000.]

[6. A composition according to claim 1, wherein said at least one silicone gum is a gum wherein:

the substituents R1 to R6 and X represent a methyl group, p=0 and n=2700;

the substituents R1 to R6 and X represent a methyl group, p=0 and n=2300;

the substituents R1 to R6 represent a methyl group, the substituent X represents a hydroxyl group, p=0 and n=2700; or

the substituents R1, R2, R5, R6 and X represent a methyl group, and the substituents R3 and R4 represent an aryl group, and p and n are selected such that the molecular weight of the compound is approximately 600,000.]

[7. A composition according to claim 1, wherein said at least one silicone oil is present in an amount which ranges from 30% to 70%.]

[8. A composition according to claim 1, wherein said at least one silicone oil is a cyclomethicone, a polydimethylsiloxane of viscosity less than 100 mPa s, or an alkyldimethicone.]

[9. A composition according to claim 1, wherein said at least one pigment is present in an amount which ranges from 2 to 8% by weight relative to the total weight of the composition.]

[10. A composition according to claim 1, wherein said at least one pigment is inorganic or organic and is coated or non-coated.]

[11. A composition according to claim 1, wherein said at least one pigment is titanium dioxide, zinc oxide, zirconium dioxide, black, yellow, red or brown iron oxide, cerium dioxide, an organic pigment or a mixture thereof.]

[12. A composition according to claim 11, wherein said organic pigment is barium, strontium, calcium or aluminium lakes.]

[13. A composition according to claim 1, which is in the form of a make-up product or a hair product.]

[14. A composition according to claim 13, wherein said make-up product is a lipstick, a blusher, an eyeshadow or a foundation and said hair product is a styling make-up gel.]

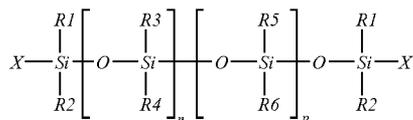
[15. A composition according to claim 1, wherein said at least one silicone gum and said at least one silicone oil are present in the form of a homogeneous premix consisting of said at least one silicone gum solubilized in said at least one silicone oil.]

[16. A composition according to claim 1, wherein said at least one filler is inorganic or synthetic and lamellar or non-lamellar.]

[17. A composition according to claim 1, which further comprises at least one gelling agent, vitamin, sunscreen or oil material.]

18. A cosmetic composition comprising from 2% to 50% of at least one silicone gum, at least one crosslinked silicone, at least one pigment in an amount ranging from 0.5% to 15%, and at least one gelling agent, wherein said at least one silicone gum is of the formula:

8



in which

R1, R2, R5 and R6 are each independently chosen from alkyl radicals having from 1 to 6 carbon atoms;

R3 and R4 each independently chosen from alkyl radicals having from 1 to 6 carbon atoms and aryl radicals;

X is chosen from alkyl radicals having from 1 to 6 carbon atoms, hydroxyl radicals, and vinyl radicals; and

n and p are independently chosen so as to give said silicone gum a viscosity of greater than 100,000 mPa*s, and

wherein said composition is anhydrous and water-resistant.

19. A cosmetic composition according to claim 18, wherein said at least one pigment is chosen from titanium dioxide, zinc oxide, zirconium dioxide, black iron oxide, yellow iron oxide, red iron oxide, brown iron oxide, cerium dioxide, and organic pigments.

20. A cosmetic composition according to claim 18, which is in a form chosen from make-up products and hair products.

21. A cosmetic composition according to claim 20, wherein said make-up products are chosen from lipsticks, blushers, eyeshadows, and foundations, and said hair products are chosen from styling make-up gels.

22. A cosmetic composition according to claim 18 for application to the lips.

23. A cosmetic composition according to claim 18 comprising at least one filler in an amount up to 30%, wherein said at least one filler is chosen from talc, mica, silica, kaolin, nylon powders, polyethylene powders, Teflon, starch, titanium mica, natural mother of pearl, boron nitride, and hollow microspheres.

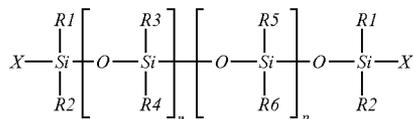
24. A cosmetic composition according to claim 18, wherein said at least one crosslinked silicone is chosen from silicone resins.

25. A cosmetic composition according to claim 18, wherein, in said at least one silicone gum, R1 to R6 and X are methyl.

26. A cosmetic composition according to claim 18, wherein, in said at least one silicone gum, R1 to R6 and X are methyl, and p is 0.

27. A cosmetic composition comprising:
from 2% to 50% of at least one silicone gum;
at least one crosslinked silicone;
at least one gelling agent;
optionally at least one filler in an amount up to 30%; and
at least one pigment in an amount ranging from 0.5% to 15%;

wherein said at least one silicone gum is of the formula:



in which

R1, R2, R5 and R6 are each independently chosen from alkyl radicals having from 1 to 6 carbon atoms;

R3 and R4 are each independently chosen from alkyl radicals having from 1 to 6 carbon atoms and aryl radicals;

X is chosen from alkyl radicals having from 1 to 6 carbon atoms, hydroxyl radicals, and vinyl radicals; and

n and p are independently chosen so as to give said silicone gum a viscosity of greater than 100,000 mPa•s, and

wherein said cosmetic composition is anhydrous and water-resistant.

28. A cosmetic composition according to claim 27, wherein said at least one crosslinked silicone is chosen from silicone resins.

29. A cosmetic composition according to claim 27, comprising at least one filler in an amount up to 30%.

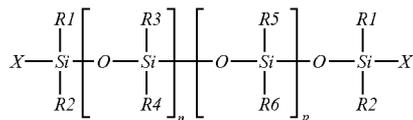
30. A cosmetic composition according to claim 27, wherein said at least one pigment is chosen from titanium dioxide, zinc oxide, zirconium dioxide, black iron oxide, yellow iron oxide, red iron oxide, brown iron oxide, cerium dioxide, and organic pigments.

31. A cosmetic composition according to claim 27, which is in a form chosen from make-up products and hair products.

32. A cosmetic composition according to claim 31, wherein said make-up products are chosen from lipsticks, blushers, eyeshadows, and foundations, and said hair products are chosen from styling make-up gels.

33. A cosmetic composition comprising:
from 2% to 50% of at least one silicone gum;
at least one crosslinked silicone;
at least one filler in an amount up to 30%; and
at least one pigment in an amount ranging from 0.5% to 15%;

wherein said at least one silicone gum is of the formula:



in which

R1, R2, R5 and R6 are each independently chosen from alkyl radicals having from 1 to 6 carbon atoms;

R3 and R4 are each independently chosen from alkyl radicals having from 1 to 6 carbon atoms and aryl radicals;

X is chosen from alkyl radicals having from 1 to 6 carbon atoms, hydroxyl radicals, and vinyl radicals; and

n and p are independently chosen so as to give said silicone gum a viscosity of greater than 100,000 mPa•s, and

wherein said cosmetic composition is anhydrous and water-resistant.

34. A cosmetic composition according to claim 33, wherein said at least one filler is chosen from talc, mica, silica, kaolin, nylon powders, polyethylene powders, Teflon, starch, titanium mica, natural mother of pearl, boron nitride, and hollow microspheres.

35. A cosmetic composition according to claim 33, wherein said at least one crosslinked silicone is chosen from silicone resin.

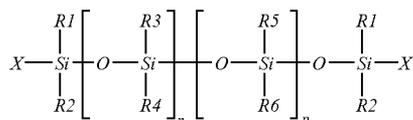
36. A cosmetic composition according to claim 33, wherein said at least one pigment is chosen from titanium dioxide, zinc oxide, zirconium dioxide, black iron oxide, yellow iron oxide, red iron oxide, brown iron oxide, cerium dioxide, and organic pigments.

37. A cosmetic composition according to claim 33, which is in a form chosen from make-up products and hair products.

38. A cosmetic composition according to claim 37, wherein said make-up products are chosen from lipsticks, blushers, eyeshadows, and foundations, and said hair products are chosen from styling make-up gels.

39. A cosmetic composition according to claim 18, further comprising at least one filler in an amount up to 30%.

40. A cosmetic composition comprising from 2% to 50% of at least one silicone gum, at least one crosslinked silicone, at least one pigment in an amount ranging from 0.5% to 15%, and at least one modified clay, wherein said at least one silicone gum is of the formula:



in which

R1, R2, R5 and R6 are each independently chosen from alkyl radicals having from 1 to 6 carbon atoms;

R3 and R4 are each independently chosen from alkyl radicals having from 1 to 6 carbon atoms and aryl radicals;

X is chosen from alkyl radicals having from 1 to 6 carbon atoms, hydroxyl radicals, and vinyl radicals; and

n and p are independently chosen so as to give said silicone gum a viscosity of greater than 100,000 mPa•s, and

wherein said cosmetic composition is anhydrous and water-resistant.

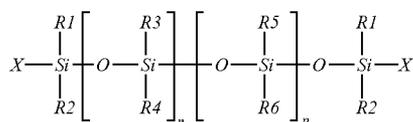
41. A cosmetic composition comprising:
from 2% to 50% of at least one silicone gum;

at least one crosslinked silicone;

at least one modified clay;

optionally at least one filler in an amount up to 30%; and
at least one pigment in an amount ranging from 0.5% to 15%;

wherein said at least one silicone gum is of the formula:



in which

R1, R2, R5 and R6 are each independently chosen from alkyl radicals having from 1 to 6 carbon atoms;

R3 and R4 are each independently chosen from alkyl radicals having from 1 to 6 carbon atoms and aryl radicals;

X is chosen from alkyl radicals having from 1 to 6 carbon atoms, hydroxyl radicals, and vinyl radicals; and

n and p are independently chosen so as to give said silicone gum a viscosity of greater than 100,000 mPa•s, and

wherein said cosmetic composition is anhydrous and water-resistant, and

wherein said cosmetic composition is a lip composition.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : RE 39,218 E
APPLICATION NO. : 09/987885
DATED : August 1, 2006
INVENTOR(S) : Myriam Mellul et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 8, line 11, "*R4 each*" should read -- *R4 are each* --.

Col. 9, line 62, "*resin*" should read -- *resins* --.

Signed and Sealed this

Twenty-sixth Day of December, 2006

A handwritten signature in black ink on a light gray dotted background. The signature reads "Jon W. Dudas" in a cursive style.

JON W. DUDAS
Director of the United States Patent and Trademark Office