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DENTAL CREAM

The present invention relates to dental cream. Sodium carboxymethyl cellulose has commonly been used as the gelling agent of commercial choice in dental creams in view of its availability and the generally satisfactory rheological properties it gives to dental creams, particularly when they are made and used in temperature climates. In tropical climates it can be subject to decomposition by cellulase.

There is an observable tendency of dental creams formulated with many grades of sodium carboxymethyl cellulose to become rough (soft lump or chunk formation) in appearance even at room temperature, particularly when subject to dynamic aging, this is extrusion of 2 cm of dental cream ribbon from a tube twice a day for 2 weeks, a condition which simulates normal use of a dental cream by one person.

Even grades of sodium carboxymethyl cellulose which do not undergo such roughening upon dynamic aging can reveal other rheological problems, for instance poor "stand-up" qualities, that is, the rapid settling of the extruded cream into a flat ribbon or thickening with the passage of time.

It is noteworthy that roughening on dynamic aging is particularly observable when the dental cream contains a compound which provides fluoride and a calcium phosphate is present as polishing material.

Thus, there is little problem when fluorine is provided from sodium monofluorophosphate or a mixture of sodium monofluorophosphate and sodium fluoride and the polishing agent is siliceous material. However, the problem is readily observable when fluorine is provided from sodium monofluorophosphate or a mixture of sodium monofluorophosphate and sodium fluoride in a dental cream containing at least about 35% by weight of a calcium phosphate polishing material such as dicalcium phosphate.

Attempts of overcome the roughening problem without having other problems such as poor "stand-up" have involved mixing different grades of sodium carboxymethyl cellulose with other gelling agents such as synthetic inorganic silicated clay (e.g. materials available under the trademarks "Laponite" and "Veegum"), thickeners such as silica thickeners available from Huber under the trademark "Zeosyl" such as Zeolsyl 200 and from Rhone Poulenc as Tixosil (Registered Trade Mark) and as Tixosil 33J or available from Wacker under the identification "HDK N20", and liquid phase material such as polyethylene glycol 600. Such attempts have not been fully successful.

Hydroxyethyl cellulose has been suggested as an alternative gelling agent to sodium carboxymethyl cellulose and indeed grades of hydroxyethyl cellulose such as Natrosol (Registered Trade Mark) M have been used in commercial dental creams and grades have been set forth, for instance in U.S. Patents 3,862,307

(Natrosol G), and 3,070,510 (viscosity of 75-125 cps-Brookfield; 20°C; 2% in water) and 4,022,881 (Natrosol 250H, a high viscosity material). Such grades of hydroxyethyl cellulose, while generally satisfactory may tend to cause dental creams to undergo extensional rheology by forming a visible "tail" during container filling and upon extrusion onto a toothbrush. For instance, "stringiness" was described in U.S. Patent 4,022,881 in toothpastes containing a thickening agent mixture of 30% hydroxethyl cellulose and 70% sodium carboxymethyl cellulose. A non-stringy toothpaste containing calcium carbonate abrasive with a thickening agent mixture of 10% hydroxethyl cellulose and 90% sodium carboxymethyl cellulose was also set forth.

In accordance with the present invention a gelling agent mixture is provided which has little susceptibility to roughness upon aging and also possesses other desirable rheological properties such as good "stand up", absence of formation of a "tail" on an extruded ribbon of dental cream and good ribbon gloss. Moreover, dental cream can be readily manufactured using this mixture without substantial modification of the procedures used when sodium carboxymethyl cellulose is the only gelling agent. The gelling material with which sodium carboxymethyl cellulose is desirably mixed in particular weight ratios is hydroxyethyl cellulose. This material too, although generally good, has not been entirely satisfactory from rheological considerations when used alone or in mixture with

thickening or gelling materials other than sodium carboxymethyl cellulose. Indeed, dental creams containing grades of hydroxyethyl cellulose such as Natrosol 250 M, dicalcium phosphate and a compound which provides fluorine exhibit "tailing" and/or low "stand-up" when grades such as Natrosol 250 M are the sole gelling agent or are present with sodium carboxymethyl cellulose in a weight ratio of sodium carboxymethyl cellulose to hydroxyethyl cellulose (Natrosol 250 M and the like) of below about 2:3 (1:1.5), e.g. about 1:10 and 3:7 (1:2.3).

In prior art U.S. Patent 4,022,881, mentioned above, a dentifrice was described containing as the thickening agent 5-30% of high viscosity hydroxyethyl cellulose (e.g. Natrosol 250 H) and 70-95% sodium carboxymethyl cellulose to stabilise the sodium carboxymethyl cellulose against degradation. However, such relative amounts (e.g. 10:1 and 7:3 (2.3:1)) are not satisfactory in that they suffer from surface roughness problems.

It is an advantage of aspects of this invention that a gelling agent system is provided for a dental cream which remains smooth upon dynamic aging and has other generally desirable rheological properties.

It is a particular advantage of aspects of the invention that dental cream tailing is avoided and stand up is improved even when hydroxyethyl cellulose predominates in the gelling agent system.

Such advantage may be particularly evident when dental cream is filled into or extruded from a pressure differential or mechanically operated container or a dental cream tube, particularly with hydrated alumina polishing agent.

The advantages may occur with a gelling agent mixture of sodium carboxymethyl cellulose and hydroxyethyl cellulose in particular weight ratio.

Further advantages of aspects of this invention are provided in dental creams containing a source of fluorine, for example a binary source of fluorine from sodium monofluorophosphate and sodium fluoride, and a polishing agent including a calcium phosphate.

According to the present invention there is provided a dental cream comprising a dental vehicle comprising about 20-80% by weight based on the weight of the dental cream of a liquid phase containing water, humectant or a mixture thereof and about 0.5-5% by weight based on the weight of the dental cream of a gelling agent containing sodium carboxymethyl cellulose and hydroxyethyl cellulose, each being present in a weight ratio of about 3:2 to 2:3 with regard to the other. The foregoing numerical references to viscosity in the present specification refer to viscosities measured in a Brookfield Viscometer in 2% by weight solution in water at 25°C.

In accordance with certain of its further aspects, the dental cream preferably comprises a compound which provides at least about 100 ppm of fluorine and about 40-75% by weight of a dentally acceptable non-toxic water-insoluble polishing agent containing a calcium phosphate in an amount of at least about 35% by weight of the dental cream.

The gelling agent is preferably present in the dental cream in an amount of about 0.5-5% by weight, preferably about 0.8-2%, and most preferably about 0.9-1.1%. The ratio of sodium carboxymethyl cellulose to hydroxyethyl cellulose is desirably about 3:2 to 2:3, typically 1:1 and preferably less than 1:1 to 2:3 (e.g. 49:51, 9:11 or 2:3).

Sodium carboxymethyl cellulose is commercially available from Hercules as CMC-7MXF and 7MFD which are preferred grades in the practice of this invention. Grades may have a degree of polymerization in the neighbourhood of 500, corresponding to a molecular weight in the neighbourhood of 100,000. The viscosity is medium to high, e.g. about 300 to 3000 cps or more, typically about 300-1200 cps preferably about 300-500 cps (Brookfield, 2%, 25°C). CMC-7MXF contains about 0.7 sodium carboxymethyl groups per anhydroglucose unit.

The following table 1 illustrates desirable commercially available grades of sodium carboxy-

methyl cellulose (CMC) (where the viscosity is measured on other than a Brookfield Viscometer in 2% by weight solution in water at 25°C, the differences are indicated):

TABLE 1

SUPPLIER	CMC GRADE	VISCOSITY
Hercules	7MXF	300-500
"	7MFD	300-500
"	9M31F	900-1200
"	9M31XF	900-1200
"	12M31XF	900-1200
"	7MF	300-500
"	12M31PD	900-1200
"	7M8SXF	200-800
Wolff Walsrode	Walocel CRT 1000 PA 07	700-1200
Nyma	Nymcel (Registered Trade Mark) ZMF.33*	50-80
Enka	Akucell (Registered Trade Mark) AC 1642	80-120
"	Akucell AC 1632*	60-120
Cros	Cellogen HP-SA	700-900
Uddeholm	Cekol MVEP	500-800
Hoechst	Tylose (Registered Trade Mark) CB 200**	120-260

*1% solution (Brookfield; 25°C)

**Hoeppler Viscometer (2%; 20°C)

Hydroxyethyl cellulose is commercially available from Hercules as Natrosol 250 M which is a preferred grade in the practice of this invention.

Grades may have a degree of polymerization in the neighbourhood of 190,000. The viscosity is medium to high, e.g. about 3000 to 12000 cps or more, typically about 3000-7000 cps and preferably about 4500-6500 cps. (Brookfield; 2%; 25°C).

The following Table 2 illustrates desirable commercially available grades of hydroxy- ethyl cellulose (HEC): (where the viscosity is measured on other than a Brookfield Viscometer in 2% by weight solution in water at 25°C, the differences are indicated).

TABLE 2

HEC SUPPLIER	GRADE	VISCOSITY
Hercules	Natrosol 250M and MR	4500-6500
	"Natrosol 250 HR* and 250H*	1500-2500
"	Natrosol 250 HHR* and 250 HH	3400-5000
B.P. Chemicals	Cellobond 5000A	4200-5600
"	Cellobond 7000A	6000-7000
Hoechst	Tylose H 4000P**	3000-5000
"	Tylose H10000P**	7000-12000

*1% solution (Brookfield; 25°C)
**Hoeppler Viscometer (2%; 20°C)

The sodium carboxymethyl cellulose and hydroxyethyl cellulose may be mechanically mixed together prior to mixing with the liquid phase of the dental cream vehicle or may be mixed separately with the liquid phase.

Rheological advantages of this invention are evident when the dental cream contains a compound which provides at least about 100 pm, of fluorine, for example about 100-10000 ppm, typically about 750-2000 ppm. Compounds which provide fluorine include sodium fluoride, stannous fluoride, potassium fluoride, potassium stannous fluoride, sodium hexafluorostannate, stannous chlorofluoride and sodium monofluorophosphate. Most typically in accordance with the present invention sodium monofluorophosphate or a mixture of sodium monofluorophosphate and sodium fluoride is employed. The rheological advantages are also evident when a calcium phosphate polishing agent, particularly dicalcium phosphate is present in an amount of at least about 35%, by weight of the dental cream.

Such dental cream typically contains about 35-75% by weight, preferably about 40-55%, of a dentally acceptable water-insoluble polishing material which consists essentially of a calcium phosphate, such as dicalcium phosphate in its dihydrated or anhydrous forms or as mixtures thereof in any desired ratio, tricalcium phosphate or calcium pyrophosphate or mixtures thereof. Most typically dicalcium phosphate is employed, generally

as the dihydrate. Dicalcium phosphate is typically the sole polishing agent, but if desired minor amounts (e.g. up to about 5% by weight of the dental cream and up to about 12% by weight of the total polishing material) of other dentally acceptable water-insoluble polishing agents which do not substantially interfere with the ability of the composition of the invention to promote oral hygiene may be present. Typical polishing agents are alumina, silica, sodium aluminosilicate etc. A minor amount of hydrated alumina (e.g. about 1%) also inhibits or even eliminates the tendency of some dental creams to separate or "bleed" in their tubes.

The dental cream typically contains sodium monofluorophosphate or a mixture of sodium monofluorophosphate and sodium fluoride in an amount to provide about 100-10000 ppm or fluorine, e.g. about 750-2000 ppm, or particularly about 1400-2000 such as about 1400-1670 ppm. A binary fluoride system of sodium monofluorophosphate and sodium fluoride is desirably used in which about 30-40% of the fluorine (e.g. about 30-35%, that is, about 300-580 ppm) is provided by sodium fluoride.

The gelling agent mixed system is particularly desirable as the gelling component of dental creams containing the binary fluorine mixture and dicalcium phosphate polishing agent described in copending British Patent Application No. 79/43642 (Published Specification No. 20 68 727 A), the disclosure of

which is incorporated herein by reference. Thus, in a typical dental cream, sodium monofluorophosphate is typically used in the binary system in an amount to provide about 700-1090 ppm fluorine to the dental cream in which the total amount of fluorine is about 1000-1670 ppm with about 30-35% weight to the total fluorine being provided by sodium flouride (about 300-580 ppm). This corresponds to about 0.5-1.2% by weight of sodium monofluorophosphate and about 0.05-0.11% by weight of sodium fluoride. Preferably, the dental cream thereof contains about 1000-1500 ppm, most preferably, about 950-1000 ppm fluorine provided by sodium monofluorophosphate and about 450-500 ppm provided by sodium fluoride.

Sodium monofluorophosphate, Na_2PO_3F, as commercially available, may vary considerably in purity. It may be used in any suitable purity provided that any impurities do not substantially adversely affect the desired properties. In general, the purity is desirably at least 80%. For best results, it should be at least 85%, and preferably at least 90% by weight of sodium monofluorophosphate with the balance being primarily impurities or by-products of manufacture such as sodium fluoride and water-soluble sodium phosphate salt. Expressed in another way, the sodium monofluorophosphate employed should have a total fluoride content of above 12%, preferably above 12.7%, a content of not more than 1.5%, preferably not more than 1.2% of free sodium fluoride; and a sodium monofluorophosphate content of at least 12%; preferably at least 12.1% all calculated as fluoride.

As indicated above, sodium fluoride in the binary mixture is a separate fluorine-containing component from sodium monofluorophosphate. About 300-580 ppm of fluorine is preferably provided to the dental cream by sodium fluoride.

Calcium phosphate dental creams typically contain about 35-75% by weight, preferably 40-55% of a dentally acceptable water-insoluble polishing material which consists essentially of a calcium phosphate, such as dicalcium phosphate in its dihydrated or anhydrous forms or as mixtures thereof in any desired ratio, tricalcium phosphate and calcium pyrophosphate. Most typically dicalcium phosphate is employed, generally as the dihydrate. Dicalcium phosphate is typically the sole polishing agent, but if desired minor amounts (e.g. up to about 5% by weight of the dental cream and up to about 12% by weight of the total polishing material) of other dentally acceptable water-insoluble polishing agents which do not substantially interfere with the ability of the composition of the invention to promote oral hygiene may be present. Typical polishing agents are alumina, silica, sodium aluminosilicate etc. A minor amount of hydrated alumina (e.g. about 1%) also inhibits or even eliminates the tendency of some dental creams to separate or "bleed" in their tubes.

In the dental cream formulations the dental vehicle comprises a liquid phase proportioned with the gelling agents to form an extrudible creamy mass of desirable consistency. In general, liquids in the dental cream will comprise chiefly water, glycerine, sorbitol, polyethylene glycol 400, propylene glycol, or the like including suitable mixtures thereof. It is advantageous usually to use a mixture of both water and a humectant or binder such as glycerine or sorbitol; typically about 10-30% by weight of water and about 15-50% by weight of humectant. It is preferred to use glycerine or sorbitol. The total liquid content will generally be about 20-80% by weight of the formulation.

Any suitable surface active or detersive material may be included in the dental cream compositions. Such compatible materials are desirable to provide additional detersive, foaming and antibacterial properties depending upon the specific type of surface active material and are selected accordingly. These detergents are water-soluble compounds usually, and may be anionic, nonionic or cationic in structure. It is usually preferred to use the water-soluble non-soap or synthetic organic detergents. Suitable detersive materials are known and include, for example, the water-soluble salts of higher fatty acid monoglyceride monosulphate detergents (e.g. sodium coconut fatty acid monoglyceride monosulphate), higher alkyl sulphates (e.g. sodium lauryl

sulphate), alkyl aryl sulphonates (e.g. sodium dodecyl benzene sulphonate, or higher fatty acid esters of 1,2-dihydroxy propane sulphonate) and the like.

Further surface active agents include the substantially saturated higher aliphatic acyl amides of lower aliphatic amino carboxylic acid compounds, such as those having 12 to 16 carbon atoms in the acyl radical. The amino acid portion is derived generally from the lower aliphatic saturated monoaminocarboxylic acids having about 2 to 6 carbon atoms usually the monocarboxylic acid compounds. Suitable compounds are the fatty acid amides of glycine, sarcosine, alanine, 3-aminopropanoic acid and valine having about 12 to 16 carbon atoms in the acyl group. It is preferred to use the N-lauroyl, myristoyl and palmitoyl sarcoside compounds, however, for optimum effects.

The amide compound may be employed in the form of the free acid or preferably as the water-soluble salts thereof, such as the alkali metal, ammonium, amine and alkylolamine salts. Specific examples thereof are the sodium and potassium N-lauroyl, myristoyl and palmitoyl sarcosides, ammonium and ethanolamine N-lauroyl glycide and alanine. For convenience herein, reference to "amino carboxylic acid compound," "sarcoside," and the like refers to such compounds having a free carboxylic group or the water-soluble carboxylate salts.

Such materials are utilized in pure or substantially pure form. They should be as free as practicable from soap or similar higher fatty acid material which tends to reduce the activity of these compounds. In usual practice, the amount of such higher fatty acid material is less than 15% by weight of the amide and insufficient to substantially adversely affect it, and preferably less than about 10% of the said amide material.

Various other materials may be incorporated in the dental creams of this invention. Examples thereof are colouring or whitening agents, preservatives, stabilisers, tetrasodium pyrophosphate, silicones, chlorophyll compounds and ammoniated materials such as urea, diammonium phosphate and mixtures thereof. These adjuvants are incorporated in the compositions of the present invention in amounts which do not substantially adversely affect the desired properties and characteristics and are suitably selected and used in conventional amounts.

For some purposes it may be desirable to include antibacterial agents in the compositions of the present invention. Typical antibacterial agents which may be used in amounts of about 0.01% to about 5%, preferably about 0.05% to about 1.0%, by weight of the dentifrice composition include:

N^1-4 (chlorobenzyl) - N^5-(2,4-dichlorobenzyl) biguanide;

p-chlorophenyl biguanide;

4-chlorobenzyhydryl biguanide;

4-chlorobenzyhydrylguanylurea;

N-3-lauroxypropyl-N^5-p-chlorobenzylbiguanide;

1,6-di-p-chlorophenylbiguanidehexane;

1-(lauryldimethylammonium)-8-(p-chlorobenzyl-dimethylammonium) octane dichloride;

5,6-dichloro-2-guanidinobenzimidazole;

N^1-p-chlorophenyl-N^5-laurylbiguanide;

5-amino-1,3-bis (2-ethylhexyl)-5-methylhexahydropyrimidine;

and their non-toxic acid addition salts.

Any suitable flavouring or sweetening materials may be employed in formulating a flavour for the compositions of the present invention. Examples of suitable flavouring constituents include the flavouring oils, e.g., oils of spearmint, peppermint, wintergreen, sassaras, clove, sage, eucalyptus, marjoram, cinnamon, lemon and orange, as well as methylsalicylate. Suitable sweetening agents include sucrose, lactose, maltose, sorbitol, sodium cyclamate, the sodium saccharine dipeptides of U.S. Patent No. 3,939,261 and the oxathiazin salts of U.S. Patent No. 3,932,606. Suitably, the flavour and sweetening agents may together comprise from about 0.01 to 5% or more of the compositions.

The dental creams should have a pH practicable for use. A pH range of 5 to 9 is particularly desirable. When the main polishing agent is hydrated alumina, the pH may be 3 to 10.5. The reference to the pH is meant to be the pH determination directly on the toothpastes. If desired, materials such as benzoic acid or citric acid may be added to adjust the pH to, say, 5.5 to 6.5, generally or say 4 to 7.5 for hydrated alumina dental cream.

The dental cream is typically packaged in an extrudible tube, such as lined or unlined aluminium or lead, or laminated tubes generally, and particularly for hydrated alumina dental cream, in mechanical dispensers.

The invention may be put into practice in various ways and a number of specific embodiments will be described to illustrate the invention with reference to the accompanying examples.

The compositions are prepared in the usual manner and all amounts of the various ingredients are by weight unless otherwise specified.

EXAMPLES 1-3-MIXED GELLING AGENT-CALCIUM PHOSPHATE-SINGLE AND BINARY FLUORINE SOURCES

Examples 1A to 1F

Examples 1D to 1F are comparison examples

The following dental creams are of the formulations given in Table 4 as prepared by conventional dental cream formulation techniques with the sodium carboxymethyl cellulose and hydroxyethyl cellulose components being separately added to a pre-mix of

glycerine and water. They were placed in aluminium dental cream tubes and dynamically aged by extruding 2 cm of dental cream ribbon twice a day, five days a week for two weeks.

TABLE 4

	PARTS	
EXAMPLE	1A	1B
Glycerine	22.00	22.00
Sodium carboxymethyl cellulose (Hercules 7MFD)	0.44	0.45
Hydroxyethyl cellulose (Hercules Natrosol 250 M)	0.46	0.50
Dicalcium phosphate dihydrate	48.00	48.00
Sodium lauryl sulphate	1.50	1.50
Sodium saccharin	0.20	0.20
Sodium monofluorophosphate	0.76	0.76
Sodium fluoride	0.10	0.10
Flavour	0.90	0.90
Deionized water	q.s. to 100	q.s. to 100

After dynamic aging for two weeks the surfaces of the dental creams were smooth and rheologically acceptable. The creams did not tail upon extrusion from the tube and stood-up well on toothbrushes. Similar rheological effects occurred at a weight ratio of the sodium carboxymethyl cellulose to the hydroxyethyl cellulose of 3:2. (Example 1C).

When the formulas were modified so that the weight ratio of the sodium carboxymethyl cellulose was greater than 3:2 (7:3 (Example 1D) and 10:1 (Example 1E) surface roughness was observed upon dynamic ageing; when only the sodium carboxymethyl

cellulose was present as gelling agent (0.90 parts (Example 1F) the surface can become chunky upon completion of two weeks of dynamic ageing.

When the relative amount of sodium carboxymethyl cellulose to the hydroxyethyl cellulose is below 2:3, the dental creams do not stand up well but rapidly settle into flat ribbons. Also as extrusion is completed the ribbons form tails. Tailing is also evident when the hydroxyethyl cellulose is the only gelling agent.

EXAMPLE 2

Dental Cream A of Example 1 was modified to employ 0.36 parts of sodium carboxymethyl cellulose and 0.54 parts of hydroxyethyl cellulose. The surface was smooth the dental cream did not tail and stood-up well.

EXAMPLE 3

Dental Cream A of Example 1 was modified to employ 0.45 parts of sodium carboxymethyl cellulose (Hercules 7MFD) and 0.45 parts of hydroxyethyl cellulose (Hercules 250 M). The surface was smooth, the dental cream did not tail and stood-up well.

EXAMPLE 3B

Similar desirable rheology was observed when dental cream A of Example 1 was modified to employ 0.50 parts of sodium carboxymethyl cellulose (Hercules 7MF) and 0.50 parts of hydroxyethyl cellulose (Hercules 250 MR) with 0.25 parts of tetrasodium pyrophosphate also present.

Similar effects to those described in Examples 1-3 are attained when other grades of sodium

carboxymethyl cellulose (e.g. Hercules 7MXF, Wolff Walsrode Walocel CRT 1000 PAA 107, Nyma Nymcel XMF.33 and Enka Akucel AC 1632) and hydroxyethyl cellulose (e.g. Hercules Natrosol 250 HR and Natrosol 250 HHR and Hoechst Tylose H 4000P) are used.

Analogous affects to those described in Examples 1-3 occur when 1.15 parts of sodium monofluorophosphate are present and sodium fluoride is omitted.

CLAIMS

1. A dental cream comprising a dental vehicle comprising about 20-80% by weight based on the weight of the dental cream of a liquid phase containing water, humectant or a mixture thereof and about 0.5-5% by weight based on the weight of the dental cream of a gelling agent containing sodium carboxymethyl cellulose and hydroxyethyl cellulose, each being present in a weight ratio of about 3:2 to 2:3 with regard to the other.

2. A dental cream as claimed in Claim 1 in which the weight ratio of carboxymethyl cellulose to hydroxyethyl cellulose is in the range 49:51 to 2:3.

3. A dental cream as claimed in Claim 1 or Claim 2 in which a compound which provides at least about 100 ppm of fluorine is present.

4. A dental cream as claimed in Claim 1, 2 or 3 which also contains about 40-75% by weight of a dentally acceptable water-insoluble polishing agent containing a calcium phosphate in an amount of at least about 35% by weight of the said dental cream.

5. A dental cream as claimed in Claim 3 or Claim 4 in which about 750-2000 ppm of ionic fluorine is provided from a fluorine source comprising sodium monofluorophosphate, or a mixture of sodium monofluorophosphate and sodium fluoride in which about 30-40% by weight of the said fluorine is provided by the said sodium fluoride.

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6. A dental cream as claimed in Claim 5 in which the said mixture of sodium monofluorophosphate and sodium fluoride is present and the said sodium fluoride provides about 30-35% by weight of the said fluorine.

7. A dental cream as claimed in any one of Claims 4 to 6 in which dicalcium phosphate is present as polishing agent in an amount of about 40-50% by weight.

8. A dental cream as claimed in any one of Claims 1 to 7 in which the said sodium carboxymethyl cellulose has a viscosity of about 300-500 cps and the said hydroxyethyl cellulose has a viscosity of about 4500-6500 cps, each viscosity being based on measurement on a Brookfield viscometer at 25°C with a 2% solution in water.

9. A dental cream as claimed in any one of Claims 1 to 8 in which the said gelling agent is present in an amount of about 0.8-2% by weight.

10. A dental cream as claimed in Claim 1 and any one of Examples 1 to 3.

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