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As. 2828/PCT.

**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISIÓN DE NUEVAS CREACIONES**

E. S. D.

SUPERINDUSTRIA Y COMERCIO

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Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

Ref.: Expediente No. **05-054.678**
Solicitud de Patente a nombre de
The Procter & Gamble Company

Yo, **JIMENA ESCOBAR URIBE**, identificada como aparece al pie de mi firma, domiciliada en Bogotá, en la Carrera 11 A No. 94-76 Of. 305, obrando como apoderada de la sociedad **The Procter & Gamble Company**, domiciliada en Cincinnati, Ohio, Estados Unidos de América, solicitante de la patente de la referencia, pido a usted que se proceda a examinar si la invención, cuya patente se tramita en el expediente de la referencia, es patentable.

Adjunto al presente memorial el recibo No. 06 - 3,390 de 17 de enero de 2006, por la suma de \$388.000.00, con lo cual queda cubierta la tasa oficial correspondiente a dicho estudio.

Señor Superintendente,


JIMENA ESCOBAR URIBE
C.C. 39.779.452 de Usaquén
T.P. 68.228
Cod. 5376
JEU/ra.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

SUPERINDUSTRIA Y COMERCIO

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RECIBO OFICIAL DE CAJA : 06 - 3,390
FECHA : ENERO 17 DE 2006

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
ESCOBAR URIBE ASOCIADOS	CONSIGNACION	BANCO POPULAR	050-00110-6	49043493	17/01/2006	2,336,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	SOLICITUDES	
		112 PTC CAP-I EXAMEN DE PATENTIBILIDA	388,000.00
		TOTAL :	\$ 388,000.00

SON: TRESCIENTOS OCHENTA Y OCHO MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

DIVISION DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No 05-54678

EL EXTRACTO DE LA PRESENTE SOLICITUD DE **PATENTE DE INVENCION**

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **556** DE

FECHA **30 DE SEPTIEMBRE DE 2005** EL TERMINO HABIL SEÑALADO POR

LA LEY EXPIRA EL **29 DE DICIEMBRE DEL 2005**

NOTA: Dentro del plazo de los seis (6) meses siguientes a partir de la fecha de publicación en la gaceta de Propiedad Industrial, deberá solicitar y cancelar el examen de patentabilidad so pena de que la solicitud caiga en abandono, de acuerdo con lo establecido en el Artículo 44 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____

NO ___ **X** ___

United States Patent [19]

Carter et al.

[11] Patent Number: 4,814,160

[45] Date of Patent: Mar. 21, 1989

[54] NON-BLEEDING STRIPED DENTIFRICE

[75] Inventors: Willie J. Carter, Belle Mead; Denise D. Suttmeier, Somerville, both of N.J.

[73] Assignee: Colgate-Palmolive Company, New York, N.Y.

[21] Appl. No.: 162,767

[22] Filed: Mar. 1, 1988

[51] Int. Cl.⁴ A61K 7/16; A61K 7/18; A61K 7/26

[52] U.S. Cl. 424/7.1; 424/49; 424/52; 424/57; 424/58

[58] Field of Search 424/7.1, 49-58

[56] References Cited

U.S. PATENT DOCUMENTS

3,928,559 12/1975 Patino 424/49
3,980,767 9/1976 Chown 424/52
4,007,259 2/1977 Patino 424/49
4,069,311 1/1978 Mannara 424/49

4,069,312 1/1978 Mannara 424/49
4,202,878 5/1980 Ritze et al. 424/7.1
4,358,437 11/1982 Duke 424/52
4,376,762 3/1983 Hauschild et al. 424/7.1
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4,456,585 6/1984 Hayes et al. 424/7.1
4,487,757 12/1984 Kiozpeplou 424/7.1
4,518,578 5/1985 Hayes et al. 424/7.1
4,568,534 2/1986 Stier 424/7.1

Primary Examiner—Shep K. Rose

Attorney, Agent, or Firm—Murray M. Grill; Robert L. Stone

[57] ABSTRACT

A stable two component striped dentifrice wherein there is no bleeding of the coloring material from the striped component into the white base component, said components having different formulations.

18 Claims, No Drawings

NON-BLEEDING STRIPED DENTIFRICE

BACKGROUND OF THE INVENTION AND PRIOR ART

A major problem encountered in the production of a two component striped toothpaste is the bleeding of color from one component into the other. This is essentially severe if the colored component is applied to the surface of a white base. In this case the concentration of colorant added to the striping component has to be very high in order to compensate for the thinness of the stripe. If any bleeding is present it is quite noticeable. For this reason a colorant that exhibits no bleeding is required.

Striped dentifrice products containing water soluble dyes are known in the prior art as disclosed in U.S. Pat. No. 4,358,437, U.S. Pat. No. 4,568,534 and U.S. Pat. No. 4,487,757. U.S. Pat. No. 4,358,437 discloses a striped toothpaste wherein the water soluble dye is in a clear gel phase with an opaque paste stripe containing the calcium carbonate abrasive and the metasilicate ingredient within or on the transparent gel containing monofluorophosphate. U.S. Pat. No. 4,568,534 discloses a stripe dentifrice comprising a white anhydrous toothpaste formulation and an aqueous striping composition containing a pH sensitive dye and a gelling agent mixture of carboxymethyl cellulose and calcium carrageenan. U.S. Pat. No. 4,487,757 discloses an effervescent toothpaste extruded from a tube comprising two separate portions, one portion containing sodium bicarbonate particles, stabilized by a compatible water insoluble polishing agent such as calcium carbonate, and a second portion having an acid pH and containing an acid and preferably 0.001 to 0.1% of a coloring agent which is a 1% aqueous dye solution.

However, previous testing has shown that water soluble dyes bleed in our normal stripe formulations. Pigments do not exhibit bleeding. Accordingly, synthetic pigments such as phthalocyanine have been used in a colored dentifrice stripe as disclosed in U.S. Pat. No. 4,456,585 and U.S. Pat. No. 4,518,578. However, said synthetic phthalocyanine pigments are disallowed for use in dentifrices in many countries around the world. Therefore, alternate non-bleeding colorant and/or formulation is needed.

It has been found that naturally occurring organic pigments such as chlorophyllin (green) and B-carotene (yellow) as colorants showed no bleeding when combined with high levels of xanthan gum (at least 1.6%) in the colored phase of a striped dentifrice.

The prior art also discloses speckled dentifrices wherein the speckles contain a colorant blended with the water-insoluble thermoplastic polymer particles such as polyethylene, said colorant being a pigment such as ultramarine blue, ferric oxide, metallic lakes and the like, as disclosed in U.S. Pat. No. 3,928,559 and U.S. Pat. No. 4,007,259. U.S. Pat. No. 4,007,259 has addressed the bleeding of colorant from the colored speckle into the toothpaste base by adding 1-5% chloroform to the dental cream, or by adding carnauba wax or a polishing agent to the colored speckles to provide color stability and bleed resistance. U.S. Pat. No. 4,069,311 and U.S. Pat. No. 4,069,312 also disclose speckled dentifrices, wherein said speckles are thermoplastic binder material containing colorants including any physiologically acceptable dye or pigment such as

inorganic pigments, organic dyes, metallic lakes thereof, chlorophyll and carotene.

U.S. Pat. No. 3,980,767 discloses a toothpaste consisting of a main transparent gel body free of dental abrasive and containing humectant, thickening agent such as cellulose esters or carrageenates; and a secondary gel body containing a dental abrasive, humectants, thickening agents, detergent and optionally an insoluble coloring material in the form of a contrasting stripe within the main gel body.

However, there is no disclosure in the prior art of a non-bleeding striped dentifrice comprising a white paste dental component and a colored gel dental component having different formulae; said colored component containing the organic pigments beta-carotene or chlorophyllin in a translucent high water gel containing a xanthan gum gelling agent, a sorbitol humectant system and an abrasive polishing agent; said white base component containing the cellulase resistant gelling agent Viscarin (a kappa carrageenan mixture) in an aqueous paste containing glycerin or a mixed humectant system, a polishing agent and other conventional dental ingredients such as anionic surfactant, fluoride-containing compounds, flavors, and the like.

SUMMARY OF THE INVENTION

It has now been found that a two component stable striped dentifrice can be formulated that does not exhibit bleeding from one component into the other component. In order to decrease the transport of colorant at the interface from one component to the other, the two component dentifrices have quite different formulae. One component consists of the coloring agent in a translucent high water gel, while the white component is an opaque white paste. The gelling agent used in the pigmented gel component is Xanthan gum at high concentrations to further decrease bleeding. Because this gum always has a small amount of cellulase present, the gelling agent used in the white paste component has to be cellulase resistant. Accordingly, the gelling agent used in the white paste is Viscarin, a kappa carrageenan mixture which is cellulase resistant. Two coloring agents were found to exhibit no bleeding in this system, i.e. beta-carotene (yellow) and chlorophyllin (green). The high water gel component comprises a humectant system containing a major amount of sorbitol and/or maltitol, and a dentally acceptable polishing agent, preferably a silica polishing agent. The white paste component comprises a humectant system containing a major amount of glycerin, and dicalcium phosphate dihydrate polishing agent. An advantage of this invention over the prior art is that it allows for the manufacture of a two component, two color dentifrice in which one color does not bleed into the other.

Accordingly, it is a primary object of the instant invention to provide a stable, non-bleeding striped dentifrice comprising two components having different formulations, a clear or translucent high water gel dentifrice containing an organic pigment selected from the group consisting of B-carotene and chlorophyllin, and a white paste dentifrice.

Another object of the invention is to provide a stable non-bleeding two-component stripe formulation wherein the pigmented gel component contains high concentrations of xanthan gum as the sole gelling agent.

Still another object of the invention is to provide a stable two component non-bleeding striped dentifrice wherein the white paste component contains a cellulase

-continued

YELLOW STRIPE GEL FORMULATION

Ingredient	%
Zeo 49 (Silica) ¹	22.00
Dicalciumphosphate Dihydrate	0.20
Flavour	1.20
Sodium Lauryl Sulphate	1.80
B-Carotene (2.4% Beadlets) ²	0.04

¹Silica containing low combined alumina (circa 1%); J. M. Huber Corp.

²Hoffman-La Roche, Inc.

The white paste dentifrice is combined with the yellow gel dentifrice in a tube filling machine in the formation of a non-bleeding yellow striped dentifrice upon extrusion, said striped dentifrice comprising 10% of the yellow gel dentifrice and 90% of the white paste dentifrice.

This two component striped dentifrice is stable and does not exhibit bleeding from the yellow colored stripe component into the white base component.

EXAMPLE 2

A green striped toothpaste having the White Base Paste Formulation of Example 1 and the following green stripe gel formulation was prepared:

GREEN STRIPE GEL FORMULATION

Ingredient	%
Glycerine	5.00
Xanthan Gum	1.60
Sorbitol (70% Soln.)	43.00
Sodium Saccharin	0.20
Sodium Monofluorophosphate	0.76
Deionized Water	24.16
Zeo 49 (Silica) ¹	22.00
Dicalciumphosphate Dihydrate	0.20
Flavour	1.20
Sodium Lauryl Sulfate	1.80
Chlorophyllin	0.08

¹Low Combined Alumina Silica; J. M. Huber Corp. A stable non-bleeding green striped dentifrice is formed.

EXAMPLE 3

The white paste Formulation of Example 1 is changed by substituting a humectant system consisting of 17% glycerine and 10% sorbitol (70% soln.) for the 22% glycerin, and the water content is adjusted accordingly. A combination of 88% of the white paste dentifrice and 12% of the yellow gel dentifrice of Example 1 produces a stable non-bleeding yellow striped dentifrice.

EXAMPLE 4

The white paste formulation of Example 3 is combined with the green gel dentifrice of Example 2 to produce a stable non-bleeding green striped dentifrice.

EXAMPLE 5

The yellow stripe gel formulation is changed by omitting the 5% glycerin ingredient and increasing the sorbitol content to 48%, and the water content is adjusted accordingly.

A combination of 10% of the yellow gel dentifrice with 90% of the white paste dentifrice of Example 1 also produces a stable non-bleeding yellow striped dentifrice.

EXAMPLE 6

The green stripe gel formulation is changed by omitting the 5% glycerin ingredient and increasing the sorbitol content to 48%, and the water is adjusted accordingly.

A combination of 12% of the green gel dentifrice with 88% of the white paste dentifrice of Example 3 also produces a stable, non-bleeding green striped dentifrice.

The examples may be modified by substituting maltitol (70% solu.) for all or a portion of the sorbitol content in the pigmented gel formulation, without adversely affecting the non-bleeding and stability properties of the striped dentifrice.

It is understood that the foregoing detailed description is given merely by way of illustration and that variations may be made therein without departing from the spirit of the invention. The "Abstract" given above is merely for the convenience of technical searchers and is not to be given any weight with respect to the scope of the invention.

We claim:

1. A stable, non-bleeding striped dentifrice composition consisting essentially of a combination of two dentifrice components, a clear or translucent pigmented high water gel dentifrice component and a white paste dentifrice component having different formulations to prevent migration of the color at the interface of the two dentifrice components; said gel component comprising about 0.01-0.5% by weight of an organic pigment selected from the group consisting of B-carotene and chlorophyllin, at least 1.6% xanthan gum as the sole gelling agent, said white paste component comprising a cellulase resistant gelling agent selected from a kappa-carrageenan mixture, in distinctly different liquid vehicles containing different dentally acceptable polishing agents.

2. The composition according to claim 1, wherein the liquid vehicle of the gel dentifrice component comprises about 35-40% total water and about 30-40% by weight of a humectant system containing a major amount of sorbitol and maltitol and mixtures thereof and 0-3% glycerin.

3. The composition according to claim 1, wherein the liquid vehicle of the paste dentifrice component comprises about 20-25% water and about 20-25% by weight of a humectant system containing a major amount of glycerin and 0-7% sorbitol or maltitol.

4. The composition according to claim 1, wherein the dental polishing agent in the gel dentifrice is a silica polishing agent.

5. The composition according to claim 1, wherein the dental polishing agent in the paste dentifrice is dicalcium phosphate dihydrate.

6. The composition according to claim 1, wherein the cellulase resistant gelling agent is a mixture of kappa-carrageenan and lambda-carrageenan.

7. The composition according to claim 4, wherein the silica polishing agent constitutes about 20-25% by weight of the pigmented translucent gel dentifrice component.

8. The composition according to claim 5, wherein the dicalcium phosphate dihydrate polishing agent constitutes about 45-50% by weight of the paste dentifrice component.

9. The composition according to claim 1, wherein the proportion of the surface striped dentifrice component

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to the base dentifrice component is in the ratio of about 10:90% by weight.

10. The composition according to claim 1, wherein the liquid vehicle in the pigmented gel dentifrice component constitutes about 65-70% by weight, and the liquid vehicle in the paste dentifrice component constitutes about 40-50% by weight.

11. The composition according to claim 1, wherein the dental polishing agent in the gel dentifrice component constitutes about 20-25% by weight, and the polishing agent in the paste dentifrice component constitutes about 45-50% by weight.

12. The composition according to claim 1, additionally containing about 0.05-5% by weight of a surface-active agent in each of the dentifrice components or in one of the dentifrice components.

13. The composition according to claim 12, additionally containing about 0.1-2% by weight of a fluoride-

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containing compound in the paste dentifrice component and/or in the gel dentifrice component.

14. The composition according to claim 9 in the form of a yellow striped toothpaste containing about 0.04% by weight B-carotene coloring agent.

15. The composition according to claim 9 in the form of a green striped toothpaste containing about 0.08% by weight of chlorophyllin coloring agent.

16. The composition according to claim 9, in the form of a white striped pigmented color gel dentifrice.

17. The composition according to claim 1, wherein the proportion of the deep striped dentifrice component to the base dentifrice component is in the ratio of 60:40% by weight of the white paste dentifrice to the pigmented gel dentifrice.

18. The composition according to claim 1, wherein the proportion of the deep striped dentifrice component to the base dentifrice component is in the ratio of 40:60% by weight of the white paste dentifrice to the pigmented gel dentifrice.

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US006315986B1

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

(10) **Patent No.:** **US 6,315,986 B1**
(45) **Date of Patent:** **Nov. 13, 2001**

(54) **STRIPED DENTIFRICE STABLE TO COLOR BLEEDING**

(75) **Inventors:** **Michael Wong**, North Brunswick;
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Jeffrey M. Miller, Sayreville; **Claude**
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(73) **Assignee:** **Colgate-Palmolive Company**, New
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(*) **Notice:** Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** **06/854,504**

(22) **Filed:** **May 12, 1997**

(51) **Int. Cl.⁷** **A61K 7/16**

(52) **U.S. Cl.** **424/49; 424/400; 424/40 L**

(58) **Field of Search** **424/49, 400, 40 L**

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,929,987 12/1975 Colodney et al. 424/52
4,069,311 * 1/1978 Mannara 424/49

4,069,312 1/1978 Mannara 424/49
4,129,638 * 12/1978 Ritze 264/117
4,202,878 * 5/1980 Ritze 424/49
4,459,277 * 7/1984 Kosti 424/7.1
4,518,578 * 5/1985 Hayes et al. 424/7.1
4,814,160 * 3/1989 Carter et al. 424/7.1
5,200,236 * 4/1993 Lang et al. 427/213

FOREIGN PATENT DOCUMENTS

9718267 5/1997 (WO) .

* cited by examiner

Primary Examiner—Thurman K. Page

Assistant Examiner—Amy E Pulliam

(74) *Attorney, Agent, or Firm*—Paul Shapiro

(57) **ABSTRACT**

A striped dentifrice stable to color bleeding, wherein at least one dentifrice component contains a colorant entrained in a matrix of synthetic wax particles having a melting point range as measured by DSC is between about 40° C. and about 135° C. and the peak endotherm temperature is at least about 65° C., whereby on storage no off-taste is detected in the dentifrice nor is there any observable colorant bleeding into any other dentifrice component.

10 Claims, No Drawings

STRIPED DENTIFRICE STABLE TO COLOR BLEEDING

BACKGROUND OF THE INVENTION

1 Field of the Invention

This invention relates to aesthetically pleasing pleasant tasting multicomponent dentifrices and more particularly to a striped toothpaste or gel wherein there is substantially no colorant bleeding between dentifrice components.

2. The Prior Art

Aesthetic effects have been acknowledged to play an important role in consumer acceptance of many products. In many cases, ornamental effects have been used to distinguish particular products in the marketplace and to identify products having particular distinctive properties. In the dentifrice field, toothpastes and gels which have incorporated therein contrasting colored stripes are known. Such stripes provide an aesthetic effect which the user finds pleasing and promotes the use of the dentifrice, particularly by children.

A major problem impacting the aesthetic appearance of striped toothpaste is the bleeding or migration of color from one component into another. This is especially severe if one colored component is applied to the surface of a white base. For this reason, a colorant that exhibits substantially no visible bleeding is required.

Striped dentifrice products containing water-soluble dyes are known in the prior art as for example, as disclosed in U.S. Pat. Nos. 4,358,437, 4,568,534, and 4,487,757. A disadvantage to the use of water-soluble dyes enumerated in these patents is that visible bleeding is observed.

U.S. Pat. Nos. 3,957,964, 3,929,988, 4,071,614 and 4,348,378 disclose dentifrices containing encapsulated ingredients such as flavors whereby such ingredients are maintained substantially separate from other dentifrice ingredients during manufacture and storage, while subsequently releasing the encapsulated ingredients into the dentifrice during tooth brushing.

It is also known to the art, e.g., U.S. Pat. No. 4,202,878, to encapsulate water insoluble dyes in capsules wherein the shell material is formed from non-toxic naturally occurring waxes such as carnauba wax, candelilla wax, castor wax, paraffin wax and bayberry wax. Although encapsulation of the dyes in these natural waxes overcome dye migration and bleeding, waxes such as natural paraffin wax, have been found to have the drawback, that the wax encapsulated dye when incorporated in a dentifrice composition produces an undesirable, waxy-plastic-like taste when stored at room temperature and during accelerated aging conditions, as for example, 6 weeks at 50° C.

Accordingly, there is a need for a colorant composition useful in the striping of aqueous based dentifrices which will essentially eliminate visible colorant bleeding and which does not suffer from the limitations and problems of the prior art.

SUMMARY OF THE INVENTION

By analyzing data on the temperature increase observed by subjecting a wax material to differential scanning calorimetry using a differential scanning calorimeter (DSC), it is possible to observe a state change of the wax under heat application and heat absorption peaks accompanying phase transition and melting of the wax.

In accordance with the present invention, there is provided an aesthetically pleasing, pleasant tasting, substantially non-bleeding, striped dentifrice composition comprised of at least two dentifrice components wherein at least one of the components is a paste or gel containing a colorant

entrained in a matrix of a synthetic aliphatic hydrocarbon wax particle wherein no waxy off-taste is imparted to the dentifrice, the wax having a melting point range as determined by DSC between about 40° and about 135° C. and the peak endotherm temperature being at least about 65° C.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Synthetic aliphatic hydrocarbon waxes useful in the practice of the present invention include as low-molecular weight polyethylene, low-molecular weight polypropylene, synthetic paraffin wax, oxidation products of aliphatic hydrocarbon waxes, such as oxidized polyethylene wax, and block copolymers thereof. A synthetic wax preferred in the practice of the present invention is a synthetic paraffin wax having a melting point in the range between about 38° and about 110° C. and a peak endotherm temperature, as measured by DSC, in the range of about 90° to about 110° C.

Synthetic aliphatic hydrocarbon waxes are predominately derived from the polymerization of hydrocarbon monomers such as ethylene, propylene and the like and have molecular weights below 10,000. Synthetic aliphatic hydrocarbon waxes include polyethylene waxes and Fisher-Tropsch waxes (polymethylene waxes). Synthetic paraffin wax is synthesized by the Fisher-Tropsch process from carbon monoxide and hydrogen, which are catalytically converted to a mixture of paraffin hydrocarbons; the lower molecular weight fractions are removed by distillation, and the residue is hydrogenated and further treated by percolation through activated charcoal. This mixture may be fractionated into its components by a solvent separation method, using a suitable synthetic isoparaffinic petroleum hydrocarbon solvent. Synthetic paraffin waxes are distinguished from paraffin waxes, which are obtained at different stages in the process of refining crude oil. During such process, the different distillates can be separated by different melting points. Refined paraffin wax is the first fraction to come off the refining processing column. Thereafter microcrystalline wax is distilled off.

The synthetic wax entrained colorant particles are incorporated in the dentifrice component at a concentration of about 0.01 to about 5% by weight and preferably about 0.05 to about 1% by weight.

Colorants suitable for entrainment or encapsulation in the synthetic wax matrix in accordance with the practice of the present invention include physiologically compatible water-soluble dyes and lakes including natural or synthetic dyes of the types permitted in foods and drugs, such as those listed in Title 21 of the U.S. Code of Federal Regulations, Section 74, including for example FD&C Blue #1 and FD&C Yellow #10. In addition to these water-soluble dyes, it is also possible to use water-insoluble dyes, for example Eyeshadow Blue KO, Colour Index 77 510, EG-No., Blue 15 (C-Blue 17), or mixtures of water-insoluble dyes and water-soluble dyes, for example Eyeshadow Blue KO and Lemon Yellow ZN 3, in which case green hues are obtained. Preferred colorants are comprised of 1% to 40% by weight, preferably 10% to 30% by weight, of a water soluble dye on a substrate such as alumina, zirconia and titania and preferably alumina hydrate. Preferred lakes are those certified by the Color Certification Laboratory of the Food and Drug Administration of the Health, Education and Welfare Department of the United States Government, for example, F.D. & C. Blue No. 1 Lake, F.D. & C. Blue No. 2 Lake, F.D. & C. Red No. 3 Lake, F.D. & C. Yellow No. 5 Lake and F.D. & C. Yellow No. 6 Lake.

The colorant may be entrained in the synthetic wax using methods of encapsulation which are known in the art. As these encapsulation methods are not specific parts of the

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EUROPEAN PATENT APPLICATION

21 Application number: 82304154.8

61 Int. Cl.²: **A 61 K 7/16**

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64 Toothpaste.

57 A multi-phase toothpaste consists of an opaque white paste matrix containing a dental abrasive, and four transparent gel stripes spaced equidistantly around the matrix. Two of the gel stripes are of one colour and two are of another colour.

The toothpaste provides good cleaning and polishing properties, coupled with high visual attractiveness.

EP 0 076 563 A2

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Preferably the secondary bodies include at least two bodies of different colours. The colours may serve to distinguish between secondary bodies containing different active ingredients, and also to provide visual distinctiveness. For example, one of the secondary bodies may contain an anti-stain or mouth freshening ingredient, while another secondary body, of different colour from the first, may contain an anti-plaque agent. The w/w ratio of paste matrix to secondary bodies may vary within wide limits, but preferably from 60 to 80 % of the total toothpaste consists of paste matrix, and from 40 to 20% of the toothpaste consists of secondary material. The composition of the paste matrix and secondary material should be such as to minimise diffusion or other undesirable interaction between the matrix and material. To this end, it is preferred to match the pH values of the different phases as closely as possible. It has also been found that enhanced stability can be achieved if the rheological properties of the phases are substantially equal.

The secondary gel bodies may be completely contained within the paste matrix to provide cores surrounded by the matrix or they may be in the form of gel stripes only partly contained within the matrix so that a portion of the surface of the stripes is exposed at the surface of the toothpaste.

Substances which are normally incompatible with the secondary bodies, e.g. substances that would adversely affect or destroy the light transmitting properties of the secondary bodies, may be included in the paste matrix as a major component without significantly affecting these properties. For example, dentally acceptable abrasives,

0076563

- 4 -

In accordance with conventional practice, the toothpaste of the invention may include materials such as detergents, sweeteners, flavouring agents, anti-caries agents and dentally acceptable abrasive material. For example, the toothpaste of the invention may comprise 15 to 75% dentally acceptable abrasive, 10 to 80% humectant, 0.25 to 5% detergent, and 0 to 2% sweeteners and flavouring agents, together with water and thickening agents to form the gel or gels. Colouring agents will be included to provide the desired colours. Other agents that may be included in the toothpaste are therapeutic agents for plaque or calculus reduction. Examples of such agents are disclosed in U.S. Patent No. 4,022,880.

The multi-phase toothpaste of the invention may be readily prepared by feeding the several phases through separate tubes of a bundle of tubes. Where the secondary bodies are stripes, the matrix phase is fed through a central tube and the secondary phases through tubes arranged around the central tube. The bundle of tubes is inserted into a toothpaste container and gradually moved upwardly relative to the container as the container is filled.

The filling device will generally have a casing enclosing the bundle of tubes, and a main outlet orifice via the central tube, and to this end the central tube is connected to a dispensing device, usually a pumping device, for feeding the matrix material to and through the central tube. The secondary bodies are dispensed in a similar fashion through one or more secondary tubes parallel to and surrounding the central tube.

**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISIÓN DE NUEVAS CREACIONES**

2020
Bogotá, D.C.,

Abogado
JIMENA ESCOBAR URIBE

ASUNTO	Radicación	05-54678
	Trámite	002
	Evento	001
	Actuación	430
	Oficio	Nº 10027
	Folios	14

Patente de Invención



Patente de Modelo de Utilidad



Vía Nacional



Vía PCT (fase nacional)



Cap. I



Cap. II



No. Sol. Internacional

PCT/US2003/037154

Fecha de Presentación Internal.

20-11-2003

Como resultado del examen de fondo, realizado con fundamento en el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica:

1. Documentos estudiados

- 1.1. Descripción: Folios: 13 a 53 (como se radicó inicialmente)
- 1.2. Reivindicaciones: Folios 54 a 56 (como se radicó inicialmente)
- 1.3. Prioridad: Folio: 1
Fecha: 26-11-2002; país y número: US 60/429,075.
Fecha: 26-11-2002; país y número: US 10/626,947.

2. Objeto de la invención

Título de la solicitud: escribir el título, o el título modificado y número de folio.

Definir el objeto de la invención en forma resumida, estableciendo el problema técnico y la solución propuesta por la invención, de acuerdo al título, descripción y

reivindicaciones de la invención. En caso de compuestos químicos, colocar su fórmula estructural.

Escribirlo basándose en el siguiente ejemplo:

El objeto de la presente solicitud de patente de invención consiste en un dentífrico con rayas

Reivindicaciones 1-9 : Una composición dentífrica multicolor

El problema planteado en esta solicitud es la necesidad de composiciones dentífricas con rayas y puntos que no presenten ningún sangrado visible del colorante.

Para solucionar este problema técnico la solicitud en estudio proporciona una pasta dental o gel con rayas y puntos en la cual las fases son reológicamente equivalentes.

La invención se catalogó según la Clasificación Internacional de Patentes (IPC.) como: A61K8/02; A61K8/04; A61K8/31.

3. De la solicitud de Patente

3.1. Descripción (artículo 28 D. 486)

El artículo 28 en el numeral c) establece que la descripción debe exponer las diferencias y eventuales ventajas de la invención respecto a la tecnología anterior. La presente solicitud carece de esta información, no se divulga ninguna ventaja de la invención frente a los productos conocidos en donde también se logra evitar el sangrado mediante el envolvimiento del colorante, laca o pigmento en una película polimérica o una cera.

Por lo anterior la descripción no cumple con el requisito de claridad y/o divulgación completa lo que haría difícil su comprensión y ejecución de acuerdo al art. 28 de la Decisión 486 o art. 22 del Tratado PCT.)

3.2. Reivindicaciones (artículo 30 D 486)

La reivindicación 1 caracteriza una composición mediante una propiedad fisicoquímica de la misma como lo es la reología de las fases. Las propiedades fisicoquímicas de un producto no se consideran una característica técnica del mismo ya que es algo inherente consecuencia de la formulación establecida que comprende los excipientes utilizados y la proporción de los mismos la cual sería la manera correcta de caracterizar una composición.

La reivindicación 1 caracteriza una composición por resultados a alcanzar como lo son que las fases tengan colores contrastantes y crear una apariencia rayada. Estas no se consideran características técnicas de una composición.

Las reivindicaciones 1-6 utilizan palabras o expresiones ambiguas por lo que las mismas carecen de concisión. Las expresiones objetadas son:

- Una pluralidad: esta expresión no limita el número posible de fases.

- Cantidad eficaz de partículas: no existe información que permita establecer cuando se considera que la cantidad es eficaz, o bajo qué parámetro se identifica que se alcanzó la eficacia.
- Crear una apariencia rayada: el concepto es ambiguo y relativo al observador.
- Colores contrastantes: es un término subjetivo
- Reológicamente equivalente: no se limita el término, ni se sabe que se puede considerar como equivalente.
- Aproximadamente: es ambiguo
- Por lo menos: da lugar a una cantidad superior ilimitada
- Insolubles, solubles: son términos relativos.

La reivindicación 1 caracteriza una composición por el medio despachador que la contiene y la manera como se encuentran acomodadas las fases en el mismo. El envase primario de una composición no se considera una característica técnica de la misma, una composición se caracteriza por sus componentes y la proporción en que se encuentran los mismos.

Por lo anterior las reivindicaciones mencionadas no cumplen con el requisito de concisión o sustento por la descripción de acuerdo al art. 30 de la Decisión 486.y/o art.22 Tratado PCT.

4. Determinación del Estado de la Técnica

La fecha que se ha tenido en cuenta para determinar el Estado de la Técnica es:

Fecha de presentación de la solicitud prioritaria: US 26-11-2002

Teniendo en cuenta la fecha indicada se realizó la búsqueda en el estado de la técnica de documentos relacionados con la solicitud encontrándose los siguientes documentos más relevantes:

Nº	Documento	Título	Fecha de publicación
D1	US4814160	NON-BLEEDING STRIPED DENTIFRICE	21-03-1989
D2	US6315986	STRIPED DENTRIFICE STABLE TO COLOR BLEEDING	13-11-2001
D3	EP076563	TOOTHPASTE	13-04-1983

5. Análisis de patentabilidad (artículo 14 D486)

5.1. Novedad (artículo 16 D486)

La reivindicación 1 reclama una composición dentífrica multicolor comprendida por:

1. Una fase de gel traslúcida que comprende partículas de colorante.
2. Por lo menos una segunda fase de color diferente

D1 divulga una composición dentífrica multicolor en la cual no se produce sangrado

1. Una fase de gel que contiene entre 0.01%-0.5% de colorante (col. 2, línea 33 y reiv. 1).
2. Una segunda fase que es una pasta opaca blanca (col 2, línea 34)

Por lo tanto, el elemento característico de las composiciones reivindicadas que consiste en dos fases de colores diferentes en las que no se produce sangrado de color, ya era conocido en D1; por lo cual las composiciones de las reivindicaciones 1 a 4 no pueden considerarse nuevas.

5.2. Nivel inventivo (artículo 18 D486)

Características Técnicas	D1	D2	D3
Composición dentífrica multicolor	SI (abstract)	SI (abstract)	SI (abstract)
Dos o mas fases	SI (abstract, reiv1)	SI (abstract)	SI (abstract)
Una fase en gel traslucido que contiene un colorante	SI (reiv. 1)	SI (col. 2 línea 66)	SI (abstract)
Segunda fase de un color diferente a la primera	SI (reiv. 1)	SI (abstract)	SI (abstract)
El colorante esta entre 0.1% a 3%	SI (reiv. 1)	SI (col. 2 línea 39)	NO
La partícula colorante esta cubierta.	NO	SI (col. 2 línea 1)	NO
Las fases se encuentran en contacto dentro de un medio despachador	NO	NO	SI(pág. 4 lineas 14 a 30)

El documento del Estado de la Técnica más próximo es D3 que enseña composiciones dentífricas multicoloreadas (Ver abstract), que no presentan sangrado del color.

Las únicas diferencias con D3 es que esta solicitud menciona que la partícula colorante se encuentra recubierta y esta en una proporción entre 0.1% a 3%. Pero estas diferencias no parecen conceder un efecto técnico inesperado porque estas composiciones igualmente evitan el sangrado del color.

El problema técnico planteado en esta solicitud es la necesidad de composiciones dentífricas con rayas y puntos que no presenten ningún sangrado visible del colorante. Este problema se había resuelto previamente mediante el mismo tipo de composiciones ya conocidos. Además D2 divulgaba previamente (abstract) composiciones dentífricas con rayas de colores, en donde el colorante esta recubierto con una cera evita los problemas antiestéticos de los colores (columna 2, línea 1), y también divulga que las partículas de colorante van en una proporción de 0.01% a 5%. Una persona conocedora de la materia motivada por estas sugerencias

manera que para una persona medianamente versada en la materia sería obvio combinar estos dos documentos. Por lo cual las reivindicaciones 1 a 9 no poseen Nivel Inventivo.

6. Conclusión:

Los requisitos de patentabilidad de la presente solicitud se encuentran afectados así:

N°	Documento N°	Reivindicaciones afectadas	Requisito que afecta
D1	US4814160	1-4	Novedad
D2	US6315986	1-9	Nivel Inventivo
D3	EP076563	1-9	Nivel Inventivo.

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de sesenta días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.

ALIX CARMENZA CÉSPEDES DE VERGEL
Jefe de División de Nuevas Creaciones

El anterior requerimiento fue notificado por fijación en lista, de fecha 24-02-2008

CONCEPTO TÉCNICO No.2795	EXAMINADOR TÉCNICO Código No. 202073
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