

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property

Organization

International Bureau

(43) International Publication Date

20 August 2020 (20.08.2020)



(10) International Publication Number

WO 2020/165773 A1

(51) International Patent Classification:

A61Q 19/10 (2006.01) A61K 8/73 (2006.01)
A61Q 5/02 (2006.01) A61K 8/44 (2006.01)
A61K 8/02 (2006.01) A61K 8/60 (2006.01)
A61K 8/19 (2006.01) A61K 8/9717 (2017.01)
A61K 8/34 (2006.01)

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(H))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

(21) International Application Number:

PCT/IB2020/05 1095

Published:

- with international search report (Art. 21(3))

(22) International Filing Date:

11 February 2020 (11.02.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/806,024 15 February 2019 (15.02.2019) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(54) Title: MOLDABLE GEL CLEANSER

(57) Abstract: A moldable gel cleanser comprising a carrageenan, a source of potassium and a glycol is disclosed.

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MOLDABLE GEL CLEANSER

FIELD OF THE INVENTION

The present invention relates to a personal care product particularly a moldable gel cleanser
5 that has improved properties.

BACKGROUND OF THE INVENTION

Consumers like foam producing products for a variety of personal care uses, such as hair and
body shampoos, facial cleansers and shave preparation gels. Foam based personal care
products have a pleasant feel. Consumers particularly like high and thick foams, quick
10 foaming action, lasting foams, and the feel of rich, luxurious, creamy foams. To achieve these
desirable effects, surfactants are added to many personal care products. Surfactants play a
major role in foam producing products by lowering the dynamic surface tension of the liquid-
air interface to allow gas bubbles to be formed or introduced beneath the surface of the liquid.
Surfactants also stabilize the foam once it is formed. However, surfactants are not without
15 disadvantages. For example, some surfactants, such as sulfates, including alkyl sulfates and
alkyl ether sulfates, are known to be irritating to the skin.

It is known that you can produce cosmetic jellies by mixing a surfactant with an extract of
seaweed. Such products have been sold commercially but have not been widely adopted, at
least in part due to the properties of the jelly. That is, the known cosmetic jellies have a semi-
20 liquid form and when, for example, applied to the human body with water they break down
into the consistency of a lumpy paste.

U.S. Published Application No. 20080206273 to Cosmetic Warriors, Ltd. discloses a
cosmetic product that contains surfactant, glycerine, monopropylene glycol and optionally
carrageenan. The reference discloses that the inclusion of monopropylene glycol, mixed with
25 the glycerine, has an effect upon the consistency of the jelly, resulting in the jelly having a
durable and almost rubber-like texture. The reference also discloses that the effects are
surprising when the jelly contains a seaweed extract, since it was thought that such an extract
would be destabilised by the presence of glycerine and monopropylene glycol. This U.S.
application, which corresponds to International Published Application No. W02006067400,
30 was abandoned in 2010.

U.S. Patent No. 9,028,872 to FMC Corporation discloses a foam, methods of preparation, and uses thereof. The reference discloses that the foam, which may be used in personal care applications, is preferably a polysaccharide and that examples of suitable polysaccharides for producing the foam include alginates, pectins, carrageenans, hyaluronates, chitosan and mixtures thereof.

U.S. Patent No. 10,064,881 to Y&B Mother's Choice Ltd. discloses compositions containing naturally-obtained plant extracts that contain naturally-obtained saponin material. The reference discloses that carrageenan may be employed as a thickening agent in the compositions.

The present invention seeks to improve upon the previously known cosmetic jellies.

SUMMARY OF THE INVENTION

Toddlers struggle to form healthy hand washing habits. If caregivers use a fun, effective cleanser on children from birth, the children will recall positive experiences with it, and will be inclined to wash their hands with it going forward. The moldable gel cleanser of the invention, which is in fun, sensory-rich formats, promotes healthy hand-washing habits.

This invention is a gel cleanser of a moldable format and texture having an amount of carrageenan effective to create an enriched sensory experience for the consumer. Further, the moldable gel cleanser is free of sulfates, so it is mild for babies and toddlers. The moldable gel cleanser has a gel matrix due to the presence of a potassium ion, and as such, the moldable gel cleanser has a gelatinous texture. The moldable gel cleanser contains glycol, which prevents sponginess, helps with the stability and structure of, and imparts a smooth surface to, the moldable gel cleanser.

According to a first aspect of the present invention there is provided a personal care product comprising:

- a carrageenan,
- a source of potassium ions; and
- a glycol.

Carrageenan acts as a gelling agent. The form of the moldable gel cleanser may differ depending on the amount of carrageenan in the product. The carrageenan can be a blend of carrageenan containing kappa carrageenan and iota carrageenan. Depending on the ratio of kappa carrageenan and iota carrageenan, different forms, textures, fix syneresis and freeze
5 thaw stability are achieved.

Strong, durable multi-use form

To form a strong, durable multi-use jelly cleanser, preferably, the personal care product contains at least 1.5%, but less than 2.0% kappa carrageenan. Not having enough carrageenan will cause the moldable gel cleanser to crumble upon use, while having too
10 much carrageenan will compress the gel matrix and make it less gelatinous, minimizing the sensory experience. Most preferably, the personal care product having this form contains 1.75% kappa carrageenan.

Crushable, single use (crumble) form

To form a crushable, single-use jelly cleanser having a crumble texture, preferably, the
15 personal care product contains about 0.63% to about 0.75% kappa carrageenan. CaCl_2 at 0.1%-0.5%, which makes kappa carrageenan brittle and crumbly, can be used to increase surface area post crush in the crumble form.

Jell-Q®-like form

To form a Jell-Q®-like jelly cleanser, preferably, the personal care product contains 1.5% to
20 2.0%, and more preferably 1.75%, carrageenan in a ratio of 50:50 - 75:25 iota carrageenan:kappa carrageenan. Iota carrageenan:kappa carrageenan in ratio of 75:25 results in a smooth jello texture. More preferably, the blend of carrageenan contains kappa carrageenan:iota carrageenan in a ratio of 0.88:2.62.

Preferably, the personal care product contains 0.25% to 1.0%, and more preferably 0.5%, of a
25 source of potassium ion. Preferably, the source of potassium ion is potassium sorbate. The potassium sorbate also acts as preservative in the moldable gel cleanser of the invention.

Preferably, the personal care product contains 2.5% to 7%, more preferably 5% to 6%, glycol. Preferably, the glycol is butylene glycol. Glycol acts as a humectant in the moldable gel cleanser of the invention.

Preferably the personal care product also contains 10% to 30%, more preferably 15% to 25%, surfactant. Thus, according to another aspect of the present invention there is provided a personal care product comprising:

- a carrageenan,
- 5 a source of potassium ions;
- a glycol; and
- a surfactant.

Preferably, the surfactant is a surfactant system that comprises sodium methyl cocoyl taurate, cocamidopropyl betaine and decyl glucoside. More preferably, the surfactant system
10 comprises sodium methyl cocoyl taurate, cocamidopropyl betaine and decyl glucoside in a 1:2:1 (anionic:amphoteric:non-ionic) ratio. Decyl glucoside boosts foaming in the moldable gel cleanser of the invention.

According to another aspect of the present invention there is provided a method of manufacturing a personal care product comprising: a carrageenan, a source of potassium ion,
15 a glycol, and, preferably, a surfactant.

According to another aspect of the present invention the surface area of the moldable gel cleanser can be maximized to enhance foaming and decrease slip.

The inventors hereof have discovered that the inclusion of carrageenan, potassium ions and glycol has a remarkable effect upon the consistency of the moldable gel cleanser.

20 The strong, durable multi-use form of the moldable gel cleanser of the present invention is particularly useful as a personal care product because it does not readily break-down in the way that a conventional cosmetic jelly does. It is therefore particularly suitable for use as a shower gel or body wash, where it can be applied in a somewhat similar fashion to a conventional bar of soap. All of the moldable gel cleanser forms are also suitable for use as,
25 for example, a hair wash.

DETAILED DESCRIPTION OF THE INVENTION

DEFINITIONS

“Carrageenans” are linear sulfated polysaccharides that are extracted from red edible seaweeds. Carrageenans are chains of D-galactopyranosyl units joined with alternating α -1,3 and β -1,4 glycosidic linkages. There are three main varieties of carrageenan, which differ in their degree of sulfation. Kappa-carrageenan has one sulfate group per disaccharide, iota-carrageenan has two, and lambda-carrageenan has three.

“Flash foaming” refers to the foam formation behavior of a substance during foaming, i.e., the amount of foam produced dependent on time or energy input.

10 “Gel” is a soft, partially transparent semisolid substance.

“Gelling agent” is a substance added to a composition to provide the texture of a gel.

“Humectant” is a substance that retains moisture.

“Sulfate” is a salt that forms when sulfuric acid reacts with another chemical. It’s a broader term for other synthetic sulfate-based chemicals that consumers may be concerned about, such as sodium lauryl sulfate (SLS) and sodium laureth sulfate (SLES). These compounds, which are produced from petroleum and plant sources such as coconut and palm oil, are found in cleaning and personal care products. The main use for SLS and SLES in products is to create lather.

20 “Surfactants” are compounds that lower the surface tension (or interfacial tension) between two liquids, between a gas and a liquid, or between a liquid and a solid. Surfactants may act as detergents, wetting agents, emulsifiers, foaming agents, and dispersants.

“Syneresis” is the contraction of a gel accompanied by the separation out of liquid.

It was observed that a combination of carrageenan and a source of potassium ions formed strong, clear, gels and was capable of supporting a surfactant system.

25 It was also observed that specific ratios of carrageenan types impact texture, syneresis, freeze/thaw stability, and crumbling.

It was also observed that a specific combination of surfactants enhances the cleansing aspects of the product (e.g., flash foaming, foam longevity, foam quality/density, mildness and skin afterfeel).

The present invention achieves a balance between appropriate foam profile, while remaining gentle and mild enough to leave skin soft and conditioned.

Embodiments of the present invention will now be described by way of further example only.

A moldable gel cleanser according to an embodiment of the present invention is formed from 5 components in Table 1, wherein percentages are given by weight.

Table 1¹

Formula → INCI Name ↓	008	009	012	020	022	026	029	030	031	061	117	119	120	172
Water	61.9	63.65	56.4	60.35	66.72 5	65.48	61.3	62.39 93	68.4	68.05	60.26	60.26	62.26	58.25 965
Sodium Benzoate	0.5	0.5	0.5	0.5	0.5	N/A	0.5	0.5	0.5	0.5	N/A	N/A	N/A	N/A
Potassium sorbate	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Glycerin	6	5	5	6	6	6	6	6	6	6	6	6	8	8
Carrageenan extract (Genugel CG-130 ²)	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.225 4	1.75	1.75
Sodium Methyl Cocyl Taurate	9.7	7.3	15	15	7.3	5.42	7.3	7.3	N/A ⁵	N/A ⁶	8.85	8.85	8.85	8.85
Cocamidopropyl betaine	13.3	15	N/A ⁷	N/A ⁸	10	11.6	10	10	10	N/A	12.14	12.14	12.14	12.14
Decyl glucoside	N/A	N/A	N/A	3.25	N/A	3.25	N/A ⁹	3.5	3.5	9.3	4.5	4.5	4.5	4.5
Ethylhexyl-glycerin; Phenoxyethanol	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

¹ All ingredients are in (wt%).

² See attached CP Kelco Product Data Sheet Genugel carrageenan CG-130 (2011).

³ Genuviso CG-131.

⁴ Genu Gum type RL-60Z 0.525.

⁵ Sodium Hydrolyzed Potato Starch Dodecenylsuccinate 2%.

⁶ Potassium Cocoyl Glycinate 7.8%.

⁷ Sodium Lauryl Sarcosinate 12%.

⁸ Water; Cocamidopropyl Hydroxysultaine; Sodium Chloride 8%.

⁹ Sodium Lauroyl Sarcosinate 5.3%

Formula →	008	009	012	020	022	026	029	030	031	061	117	119	120	172
INCI Name ↓														
Butylene Glycol	5	5	5	6	6	5	5	6	6	5	5	5	N/A ¹⁰	5
Fragrance	0.5	0.3	1	0.5	0.5	0.3	0.5	0.5	0.5	0.5	0.3	0.3	0.1	0.3
Dye	N/A	2	2	N/A	N/A	N/A	N/A	0.0007	N/A	N/A	N/A	N/A	N/A	0.00035
50% citric acid solution	0.25	0.1	0.25	N/A	0.125	0.1	0.25	0.95	0.25	N/A	0.1	0.1	0.1	0.1
Total:	100	100	100	100	100	100	100	100	100	100	100	100	100	100

¹⁰ Glucam E-10 Humectant 1%.

Each of the formulas were tested for a number of criteria to determine acceptability. Results are in Table 2 below.

Table 2

Formula #	Surfactant Combination and Ratios	Trade Names	% Kappa Carrageenan	Trade Name	Other Polymer % and Trade Name	Formed Gel Matrix Capable of pouring and Being Molded (pass/fail)	Met Aesthetic Release Criteria (pass/fail)	Met minimum foam height threshold (pass/fail) (380 mL)
008	1:2 SMCT:CAPB	Adinol CT24-LQ-(RB), TEGO Betain F 50	1.75	Genuge 1CG-130	N/A	Pass	Pass	N/A
009	1:3 SMCT:CAPB	Adinol CT24-LQ-(RB), TEGO Betain F 50	1.75	Genuge 1CG-130	N/A	Pass	Pass	N/A
012	1:1 SMCT:Sarcosinate	Adinol CT24-LQ-(RB), Crodasinic LS30	1.75	Genuge 1CG-130	N/A	Pass	Pass	N/A
020	1:1 SMCT:CAPHS	Adinol CT24-LQ-(RB), Mirataine CBS	1.75	Genuge 1CG-130	I-Carrageenan, 0.8, Genuvisco CG-131	Pass	Pass	Pass
022	2:1 SMCT:CAPHS	Adinol CT24-LQ-(RB), Mirataine CBS	1.75	Genuge 1CG-130	N/A	Pass	Pass	N/A
026	1:3:1 SMCT:CAPB:DG	Adinol CT24-LQ-(RB), TEGO Betain F 50, Plantaren 2000	1.75	Genuge 1CG-130	N/A	Pass	Pass	Pass
029	1:1:2 SMCT:Sarcosinate:CAPB	Adinol CT24-LQ-(RB), Crodasinic LS30, Plantaren 2000	1.75	Genuge 1CG-130	N/A	Pass	Pass	Pass
030	1:2:1 SMCT:CAPB:DG	Adinol CT24-LQ-(RB), TEGO Betain F 50, Plantaren 2000	1.75	Genuge 1CG-130	N/A	Pass	Pass	Pass
031	1:2:1 PS-111:CAPB:DG	Structure PS-111, TEGO Betain F 50,	1.75	Genuge 1CG-130	N/A	Pass	Pass	N/A

Formula #	Surfactant Combination and Ratios	Trade Names	% Kappa Carrageenan	Trade Name	Other Polymer % and Trade Name	Formed Gel Matrix Capable of pouring and Being Molded (pass/fail)	Met Aesthetic Release Criteria (pass/fail)	Met minimum foam height threshold (pass/fail) (380 mL)
		Plantaren 2000						
061	1:2 PC Glycinate	Amlite GCK 12H	1.75	Genuge 1 CG-130	N/A	Fail	Fail	N/A
117	1:2:1 SMCT:CAPB:DG	Adinol CT24-LQ-(RB), TEGO Betain F 50, Plantaren 2000	1.75	Genuge 1 CG-130	N/A	Pass	Pass	Pass
119	1:2:1 SMCT:CAPB:DG	Adinol CT24-LQ-(RB), TEGO Betain F 50, Plantaren 2000	1.225	Genuge 1 CG-130	Locust Bean Gum (Genugum RL 200Z CG) 0.525%	Pass	Fail	N/A
120	1:2:1 SMCT:CAPB:DG	Adinol CT24-LQ-(RB), TEGO Betain F 50, Plantaren 2000	1.75	Genuge 1 CG-130	N/A	Pass	Fail	N/A

A crushable, single use (crumble) moldable gel cleanser according to an embodiment of the present invention is formed from components in Table 3, wherein percentages are given by weight.

5 Table 3: Crumble 1:2:1 SMCT:CAPB:DG crumble 8% glycerin

US INCI Name	Percentage
Water	59.32965
Potassium Sorbate	0.5
Glycerin	8
Genugel CG-130	0.68
Sodium Methyl Cocoyl Taurate; Water	8.85
Cocamidopropyl Betaine	12.14
Decyl Glucoside	4.5
Ethylhexylglycerin; Phenoxyethanol	0.6
Butylene Glycol	5
Fragrance	0.3
Red 40	0.00035
Citric Acid	0.1

A Jell-0®-like moldable gel cleanser according to an embodiment of the present invention is formed from the components in Table 4, wherein percentages are given by weight.

Table 4

US INCI Name	Percentage
Water	61.85
Sodium Benzoate	0.5
Potassium Sorbate	0.5
Glycerin	6
Genugel Carrageenan CG-130	0.88
Satiagel VPC 508 (Cargill, iota carrageenan)	2.62
Sodium Methyl Cocoyl Taurate; Water	7.3
Cocamidopropyl Betaine	10
Decyl Glucoside	3.5
Ethylhexylglycerin; Phenoxyethanol	0.6
Butylene Glycol	5
Fragrance	0.5
Calcium Chloride	0.75

- 5 A method of manufacturing a moldable gel cleanser according to the present invention and based upon the above stated groups of components is as follows:
1. Add 100% purified water at ambient temperature and begin mixing.
 2. Add sodium benzoate (if in formula) and mix until fully dissolved.
 3. Add potassium sorbate and mix until fully dissolved.
 - 10 4. Add glycerin and mix until uniform.
 5. Begin heating to 80-85°C.
 6. Add Genugel GC-130 and mix until uniform.
 7. Add sodium methyl cocoyl taurate (or substitute) at 80°C and mix until uniform.
 8. Add cocamidopropyl betaine (if in formula or substitute) and mix until uniform.
 - 15 9. Add decyl glucoside (if in formula) and mix until uniform.
 10. Begin cooling to 65°C.
 11. Add ethylhexyl-glycerin; phenoxyethanol and mix until uniform.
 12. Add dye solution dropwise to desired shade.
 13. Use citric acid to adjust pH to 5.5-5.7.
 - 20 14. Pour solution in to molds if desired.

The above stated method is an example only and may be varied depending on the specific components used.

The present inventors determined that:

Carrageenan forms solid jellies.

Potassium sorbate is a good preservative/crosslinker.

5 1.5% - 2% kappa carrageen works well in the strong, durable multi-use and the Jell-O® forms.

1.75% kappa carrageenan works best in the strong, durable multi-use and the Jell-O® forms.

Glycinates are incompatible, as demonstrated using potassium cocoyl glycinate.

10 Iota carrageenan does not work well on its own. A blend of iota carrageenan and kappa carrageenan works well.

PEG-80 and any polyethoxylated chemicals are incompatible with carrageenan.

The optimal carrageenan ratio for an iota/kappa blend is 0.88:2.62.

Example

15 Surfactants were tested. The results are shown in Table 5. As can be seen below, not all surfactants are compatible with the moldable gel cleanser of the invention.

Table 5

Surfactant	Results
Sodium methyl cocoyl taurate (SMCT)	Optimal foaming and density
Sodium lauryl sarcosinate	Flash foam inferior to SMCT
K/Na cocoyl glycinate	Incompatible with carrageenan
PS-111	Foam booster
Sodium cocoyl isethionate	Incompatible with carrageenan
Cocamidopropyl betaine	Best flash foaming/quality
Cocamidopropyl hydroxysultaine	Foam too dense/creamy
Disodium amphodiacetate	Amphoacetates incompatible with carrageenan
Sodium lauroamphoacetate	Amphoacetates incompatible with carrageenan

Decyl glucoside	Boosts foam, enhances mildness
PEG-80 sorbitan laurate	Polyethoxylation incompatible with carrageenan
Cocoglucoside	Inferior to decyl glucoside

Example

Foam Height

Foam height testing is a valuable method to objectively quantify foaming performance. It is performed by a tumbling instrument to ensure reproducibility. This method involves inverting cylinders for 32 cycles with 90g water and 10g product. Data are collected after 2, 4, 8, 16 and 32 cycles.

More foam is preferred.

Flash foaming is important.

10 Cycles 2-8, 16-32.

Helpful to quantify cleanser performance.

Example

Syneresis Experiment Method

1. Create batch and pour (2) semi-sphere samples, allow to fully cool.
- 15 2. Once cool, record masses.
 - a. If testing open-air, continue with steps 3-11.
 - b. If testing enclosed, go to step 12.
3. Obtain one standard tongue depressor and record its mass.
4. Stick tongue depressor through one of the jelly, so that the stick is parallel with the flat side of the semi-sphere.
- 20 5. Record mass of jelly + stick.
6. Lay tongue depressor across mouth of 400mL beaker, so jelly is suspended in air.

7. Record current time.
8. In 24 hours, record mass of sample + stick.
9. In 48 hours, record mass of sample + stick.
10. In 72 hours, record mass of sample + stick.
- 5 11. After 3 days, calculate % mass lost per day.
12. Obtain 8 oz jar and record mass.
13. Add jelly to jar flat side down.
14. In 24 hours, remove jelly WITHOUT inverting jar.
15. Dry completely and measure mass.
- 10 16. In 48 hours, remove jelly WITHOUT inverting jar
17. Dry completely and measure mass.
18. In 72 hours, remove jelly WITHOUT inverting jar.
19. Dry completely and measure mass.
20. After 3 days, calculate % mass lost per day.

15 **Example**

EIT Testing

EIT (epithelial irritation testing) can be used to assess if the systems are mild enough for use on infants and toddlers.

Example

- 20 The following observations can be made to assess the aesthetics of the moldable gel cleanser:

Foam quality

Foam density

Flash foam

Dry down

- 25 Rinse-off

Residue

Texture

It will be understood that, while various aspects of the present disclosure have been illustrated and described by way of example, the invention claimed herein is not limited
5 thereto, but may be otherwise variously embodied according to the scope of the claims presented in this and/or any derivative patent application.

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- 25
- Cargill Beauty Unleashing Nature Sustainably,

Claims:

1. A personal care product comprising:
 - a carrageenan;
 - a source of potassium ions; and
 - 5 a glycol.
2. The personal care product of claim 1, wherein the carrageenan is kappa carrageenan.
3. The personal care product of claim 3, wherein the percentage by weight of carrageenan is
10 about 1.5% to less than 2.0%.
4. The personal care product of claim 4, wherein the percentage by weight of kappa carrageenan is about 1.75%.
- 15 5. The personal care product of claim 1, wherein the percentage by weight of a source of potassium ion is about 0.25% to about 1.0%.
6. The personal care product of claim 1, wherein the percentage by weight of glycol is about 2.5% to about 7.0%.
20
7. The personal care product of claim 1, wherein the personal care product is a moldable gel cleanser in a form selected from the group consisting of strong, durable multi-use jelly cleanser; crushable, single use jelly cleanser; and Jello®-like jelly cleanser.
- 25 8. The personal care product of claim 1, further comprising a surfactant.

9. The personal care product of claim 8, wherein the surfactant is selected from the group consisting of sodium methyl cocyl taurate, cocamidopropyl betaine, decyl glucoside and combinations thereof.
- 5 10. A method of forming a personal care product comprising the steps of selecting the components of the product to include a carrageenan; a source of potassium ions; and a glycol.
- 10 11. The method of claim 10, further comprising the step of selecting a surfactant selected from the group consisting of sodium methyl cocyl taurate, cocamidopropyl betaine, decyl glucoside and combinations thereof as a component of the product.

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2020/051095

A. CLASSIFICATION OF SUBJECT MATTER					
INV.	A61Q19/10	A61Q5/02	A61K8/02	A61K8/19	A61K8/34
	A61K8/73	A61K8/44	A61K8/60	A61K8/9717	
ADD.					
According to International Patent Classification (IPC) or to both national classification and IPC					
B. FIELDS SEARCHED					
Minimum documentation searched (classification system followed by classification symbols)					
A61Q A61K					
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched					
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)					
EPO-Internal, CHEM ABS Data, WPI Data					
C. DOCUMENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where appropriate, of the relevant passages			Relevant to claim No.	
X	THE CRODA GROUP OF COMPANIES: "Research Disclosure - Transformative Textures", RESEARCH DISCLOSURE, KENNETH MASON PUBLICATIONS, HAMPSHIRE, UK, GB, vol. 656, no. 82, 1 December 2018 (2018-12-01), page 1353, XP007147090, ISSN: 0374-4353 [retrieved on 2018-11-22]			1,2,5-9	
Y	Mermaid Jelly Shampoo -----			1-9	
X	US 2001/056049 A1 (ARONSON MICHAEL PAUL [US] ET AL) 27 December 2001 (2001-12-27)			1-6,8,9	
Y	claims 1,3,7-11,15-17 paragraph [0013] pages 8-9; example 1; compounds 1,2,5 page 12; example 9 ----- -/--			1-9	
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.					
* Special categories of cited documents :					
"A" document defining the general state of the art which is not considered to be of particular relevance		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention			
"E" earlier application or patent but published on or after the international filing date		"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone			
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art			
"O" document referring to an oral disclosure, use, exhibition or other means		"&" document member of the same patent family			
"P" document published prior to the international filing date but later than the priority date claimed					
Date of the actual completion of the international search			Date of mailing of the international search report		
30 April 2020			15/05/2020		
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016			Authorized officer Grillenberger, Sonja		

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2020/05 1095

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: 10, 11
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2020/05 1095

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 954 162 A1 (OREAL [FR]) 24 June 2011 (2011-06-24)	1,2,6,8
Y	claims 1,10,11 pages 30-31; examples 7-9 -----	1-9
X	DATABASE GNPD [Online] MINTEL; 28 December 2018 (2018-12-28), anonymous: "Radiance Refreshing Jelly Mask", XP055690498, retrieved from www.gnpd.com Database accession no. 6184579	1,2,7,8
Y	abstract -----	1-9
X	DATABASE GNPD [Online] MINTEL; 23 April 2018 (2018-04-23), anonymous: "Sulphate-Free Shower Shampoo", XP055690452, retrieved from www.gnpd.com Database accession no. 5614603	1,2,8,9
Y	abstract -----	1-9
X	EP 0 271 131 A2 (UNILEVER NV [NL]; UNILEVER PLC [GB]) 15 June 1988 (1988-06-15)	1-6
Y	claims 1,2,12,13,21,22 table 2 examples 2-4 -----	1-9

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Claims Nos.: 10, 11

No International Searching Authority shall be required to search an international application if, and to the extent to which, its subject matter is performing purely mental acts (R.39.1(iii) PCT). The subject-matter of present claim 10 (and 11 dependent thereof) defines "A method of forming a personal care product comprising the steps of selecting the components of the product (...)" which is construed as representing such a "purely mental act", and no further steps to be comprised in said method.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2020/051095

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			EP 0271131 A2 15-06-1988
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