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(71) Demandeur/Applicant:
AMAZING U BODY CARE INC., CA

(72) Inventeur/Inventor:
VANDERFLIER, CATHY M., CA

(74) Agent: WEBB, TIM E.

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LAIT DE BREBIS

(54) Title: COSMETIC FORMULATION AND METHOD OF MAKING A COSMETIC CONTAINING SHEEP'S MILK



COSMETIC FORMULATION AND METHOD OF MAKING A COSMETIC CONTAINING SHEEP'S MILK

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FIELD OF THE INVENTION

Cosmetic containing sheep's milk and method for making a cosmetic containing sheep's milk.

BACKGROUND OF THE INVENTION

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Today the impulse to improve one's appearance with cosmetics is getting help from modern specialty ingredients and science. Cosmetics are becoming a highly technical business, with the growth of products that supposedly mimic pharmaceuticals, thus spawning the term "cosmeceuticals". This growth has revolutionized the personal care business and enhanced the demand for certain natural ingredients.

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Cosmeceutical products are at the interface of cosmetics (that simply cleanse and beautify) and pharmaceuticals (that cure and heal). Cosmeceuticals include skin care, hair care, and sun care products.

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Products produced with sheep's milk have been found to have beneficial qualities for use as a cosmetic or Cosmeceutical.

GB 2186484 discloses a skin cream made from goat or ewe cream, glycerin, white paraffin, and essential oils, and also discloses a method of combining the ingredients involving agitating the ingredients by churning until they are combined.

5 WO 00/59519, DE 10000157, and DE 19963628 generally disclose the use of colostrum, which is milk secreted during the first few days following birth and characterized by high protein and antibody content) in a skin cream, including sheep or goat colostrum.

10 SUMMARY OF THE INVENTION

In general terms, the present invention is a cosmetic containing sheep's milk and method for making a cosmetic containing sheep's milk. The cosmetic may be useful for many purposes, such as a nail, skin, face, hair, or general purpose cream. The cosmetic may also be useful for treating nail, skin, face, or other conditions or disorders.

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Accordingly, in one aspect, the invention is a cosmetic composition which comprises, in combination:

- a) sheep's milk;
- b) water;
- 20 c) at least one oil; and
- d) an emulsifier.

Preferably the cosmetic composition contains between approximately 0.0001 weight (wt.) percent and approximately 80 wt. percent sheep's milk. More preferably the cosmetic composition contains between approximately 6 weight (wt.) percent and approximately 80 wt. percent sheep's milk. Preferably the cosmetic composition contains between approximately 14 wt. percent and approximately 86 wt. percent water. Preferably the cosmetic composition contains between approximately 0.0001 wt. percent and approximately 85.999 wt. percent at least one oil. Preferably the cosmetic composition contains between approximately 0.0001 wt. percent and approximately 86 wt. percent emulsifier.

In another aspect, the invention is a cosmetic composition which comprises, in combination:

- a) sheep's milk;
- b) water;
- c) sodium borate;
- d) at least one oil;
- e) glycerin; and
- f) an emulsifier.

The sheep's milk may be in whole or skim form and it may be pasteurized or not. The sheep's milk may be in liquid, concentrate or powder form. In the preferred embodiment, the cosmetic composition contains between approximately 0.0001 weight (wt.) percent and approximately 80 wt. percent sheep's milk. More preferably, the

cosmetic composition contains between approximately 6 weight (wt.) percent and approximately 80 wt. percent sheep's milk.

The water may be filtered, for example by reverse osmosis or otherwise or may be distilled or deionized. The water may be fresh water, salt water or brine. In the preferred embodiment, the cosmetic composition, contains between approximately 14 wt. percent and approximately 86 wt. percent fresh water. Preferably the water has been treated or filtered by reverse osmosis.

The sodium borate (borax) is preferably in powder form. In the preferred embodiment, the cosmetic contains between approximately 1.43 wt. percent and approximately 3.45 wt. percent sodium borate.

The at least one oil may comprise shortening, shea butter, coconut oil, avocado oil, grape seed oil, canola oil, cocoa butter, apricot kernel oil, wheat germ oil, mineral oil, essential oils (e.g. lavender, rosemary, sandalwood), fragrance oils, or a mix thereof. The at least one oil may comprise a fatty acid (e.g. avocado oil) or a petroleum oil (e.g. mineral oil), or a mix thereof. By way of example, Table 1 illustrates the approximate composition ranges for several suitable oils. Preferably the at least one oil is a mix of vegetable shortening and avocado oil. In the most preferred embodiment the cosmetic contains approximately 33.31 wt. percent vegetable shortening and approximately 4.01 wt. percent avocado oil.

The emulsifier may be any suitable emulsifier, for example sodium borate, Acrylate Copolymer, Crodafos CES, beeswax, Cetyl Alcohol, or Stearyl Alcohol. By way of example, Table 2 illustrates the approximate composition ranges for several suitable emulsifiers. Preferably the emulsifier is beeswax or Crodafos Ces or a combination thereof. In the preferred embodiment, the cosmetic composition contains between approximately 1 wt. percent and approximately 6.02 wt. percent beeswax or between approximately 1.5 wt. percent and approximately 3.69 wt. percent Crodafos CES, or a combination thereof.

The glycerine may be vegetable-derived. In the preferred embodiment, the cosmetic composition contains between approximately 1.14 wt. percent and approximately 2.01 wt. percent glycerin.

The cosmetic composition may also include a preservative. Preferably the preservative is Germaben 11. In the preferred embodiment, the cosmetic composition contains between approximately 1 wt. percent and approximately 1.14 wt. percent Germaben 11.

The cosmetic composition may also include a fragrance. Preferably the fragrance is plumaria, lavender, rosemary, or sandalwood.

The cosmetic composition may also include a thickener, such as Xanthan gum or Crodafos CES. The cosmetic composition may contain between approximately 0 wt.

percent and approximately 10 wt. percent Xanthan gum, but preferably the cosmetic composition may contain between approximately 0 wt. percent and approximately 1 wt. percent Xanthan gum.

5 The cosmetic composition may also include at least one additional additive, such as blue algae extract, licorice root extract, sea parsley extract, dimethicone, microfine zinc oxide, microfine titanium dioxide, citric acid or a combination thereof. By way of example, Table 3 illustrates approximate composition ranges for additional ingredients, such as additives.

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By way of example, Tables 4 – 7 illustrate embodiments of the cosmetic composition of the present invention.

15 In another aspect, the invention is a method of making a cosmetic composition, said method comprising the steps of:

a) preparing a first intermediate compound by:

i) providing water at between approximately 65°C (149°F) and approximately 100°C (212°F);

20

ii) combining the water with a first emulsifier, and blending until the first emulsifier is mixed in the water; and

- iii) cooling the first intermediate compound to between approximately 40°C (104°F) and approximately 23.8°C (75°F);
- b) preparing a second intermediate compound by:
 - 5 i) providing a second emulsifier;
 - ii) combining the second emulsifier and at least one oil; and
 - iii) adjusting the temperature of the second intermediate compound to
10 between approximately 55°C (131°F) and approximately 75°C (167°F);
- c) forming a cream by combining the first intermediate compound and the
15 second intermediate compound;
- d) preparing sheep's milk by:
 - i) providing the sheep's milk at between approximately 2°C (35.6°F)
and approximately 30°C (86°F); and
- 20 e) combining the sheep's milk and the cream.

The second emulsifier may be the same as the first emulsifier or they may differ.
The first emulsifier and the second emulsifier may be any emulsifier as listed herein
below as an emulsifier. The emulsifier may be a combination of emulsifiers.

5 In another aspect, the invention is a method of making a cosmetic composition,
said method comprising the steps of:

- a) preparing a first intermediate compound by:
 - 10 i) providing water at between approximately 65°C (149°F) and
 approximately 100°C (212°F);
 - ii) combining the water with sodium borate, and blending until the
 sodium borate is dissolved in the water; and
 - 15 iii) cooling the first intermediate compound to between approximately
 40°C (104°F) and approximately 23.8°C (75°F);
- b) preparing a second intermediate compound by:
 - 20 i) providing an emulsifier;
 - ii) combining the emulsifier and at least one oil; and

iii) adjusting the temperature of the second intermediate compound to between approximately 55°C (131°F) and approximately 75°C (167°F);

5 c) forming a cream by combining the first intermediate compound and the second intermediate compound;

d) preparing sheep's milk by:

10 i) providing the sheep's milk at between approximately 2°C (35.6°F) and approximately 30°C (86°F); and

e) combining the sheep's milk and the cream.

15 The water may be filtered, for example by reverse osmosis or otherwise or may be distilled or deionized.

The emulsifier may comprise beeswax. If the emulsifier comprises beeswax, it may be melted over a low heat before it is added to the second intermediate compound.

20 The at least one oil may comprise shortening. If the shortening is in solid or semi-solid form, it may be melted to be provided in liquefied form. Preferably it is melted over a low heat before being added to the second intermediate compound in liquid form.

Preferably the temperature of the first intermediate compound is adjusted to between approximately 34°C (93.2°F) and approximately 23.8°C (75°F).

Preferably the temperature of the second intermediate compound is adjusted to
5 between approximately 55°C (131°F) and approximately 75°C (167°F).

In the preferred embodiment, the cream is formed by adding the first intermediate compound to the second intermediate compound, and blending or mixing them together. In the most preferred embodiment the first and second intermediate compounds are
10 combined at a rate sufficiently slow to substantially avoid separation of the oil and water.

The sheep's milk may be pasteurized. The sheep's milk may be thawed and refrozen as desired, for example to allow for safer or simpler transport. In the preferred embodiment, the sheep's milk is prepared by the steps of freezing and pasteurizing, and
15 then is provided at a temperature in the range specified above. In the preferred embodiment, the sheep's milk is added to the cream and blended until mixed. In the preferred embodiment the sheep's milk is provided at approximately room temperature.

If powdered sheep's milk is used, then it is prepared according to the supplier's
20 instructions, typically by the addition of a specified amount of water and then mixing. The reconstituted sheep's milk can then be used in the same way as sheep's milk previously disclosed.

If concentrated sheep's milk is used, then it is unconcentrated or diluted according to the supplier's instructions, typically by the addition of a specified amount of water and then mixing. The reconstituted milk can then be used in the same way as sheep's milk previously disclosed.

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Optional ingredients may be added to the cosmetic after the sheep's milk is mixed. Optional ingredients include a preservative (preferably Germaben 11) or a fragrance (preferably Plumeria) or any of the additives or thickeners previously mentioned.

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It will be readily seen by those skilled in the art that various modifications of the present invention may be devised without departing from the essential concept of the invention, and all such modifications are intended to be included in the scope of the claims appended hereto.

**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A cosmetic cream composition which comprises, in combination:
 - 5 (a) sheep's milk;
 - (b) water;
 - (c) sodium borate;
 - (d) shortening;
 - (e) Avocado oil;
 - 10 (f) glycerin; and
 - (g) an emulsifier.
2. A method of formulating a cosmetic cream composition, said method comprising the steps of:
 - 15 (a) Preparing a first intermediate compound by:
 - (i) providing water at a temperature near its boiling point;
 - (ii) adding Borax, and blending until it is dissolved in the water; and
 - (iii) cooling the first intermediate compound to approximately 24°C;
 - 20 (b) Preparing a second intermediate compound by:
 - (i) melting an emulsifier and shortening over low heat;
 - (ii) adding avocado oil and glycerin, and blending until combined; and

(iii) cooling the second intermediate compound to between
approximately 55°C and approximately 65°C;

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(c) Forming a cream by combining the first intermediate compound and the
second intermediate compound;

(d) Preparing sheep's milk by:

(i) providing the sheep's milk at approximately room temperature;
and

10

(e) Combining the sheep's milk and the cream by blending.

Product #1-6	Low %	High %	Ref. L%	Ref. H%	Ingredient
#1, 6	0. %	85.99 %	15. %	33.31 %	Canola Oil
#1, 2, 6	0. %	85.99 %	2. %	4.01 %	Avocado Oil
#2, 3, 4, 5, 6	0. %	85.99 %	2. %	8.10 %	Shea Butter
#2	0. %	85.99 %	4.59 %	4.59 %	Coconut Oil
#2, 3, 4, 5	0. %	85.99 %	2. %	5. %	Cocoa Butter
#3	0. %	85.99 %	9.29 %	9.29 %	Mineral Oil
#3	0. %	85.99 %	2.5 %	2.5 %	Apricot Oil
#4, 5	0. %	85.99 %	14.82 %	15.84 %	Olive Oil
#3, 4, 6	0. %	85.99 %	1. %	1.50 %	Wheat Germ Oil

TABLE 1

A	A	B	C	D	E
1	Low %	High %	PreF. L%	PreF. H%	Ingredient
2					
3	0. %	7. %	0. %	3.45 %	Sodium Borate
4	weight				
5	0. %	10. %	0. %	7. %	Acrylate Copolymer
6	weight				
7	0. %	10. %	1.5 %	7. %	Crodafos Cres
8	weight				
9	0. %	10. %	0. %	6.02 %	Beeswax
10	weight				
11					
12					
13	0. %	10. %	0. %	1. %	Cetyl Alcohol
14	weight				
15	0. %	10. %	0. %	2.5 %	Stearyl Alcohol
16	weight				

TABLE 2

11			Preferred	Preferred	
12	Low %	High %	Low %	High %	Optional Ingredients
13					
14					
15	0. %	1. %	0. %	.01 %	Citric Acid
16	weight				
17	0. %	2.5 %	0. %	2.5 %	Dimethicone
18	weight				
19	0. %	50. %	0. %	20. %	Microfine Titanium Dioxide
20	weight				
21	0. %	25. %	0. %	14. %	Microfine Zinc Oxide
22	weight				
23	0. %	1. %	1. %	1. %	Germaben 11
24	weight				
25	0. %	10. %	0. %	5. %	Trocopheryl Acetate
26	weight				
27	0. %	2 %	0. %	1. %	Blue Algae Extract
28	weight				
29	0. %	3. %	0. %	1. %	Ginger Extract
30	weight				
31	0. %	20 %	0. %	10 %	Licorice Root extract
32	weight				
33	0. %	3. %	0. %	1. %	Myrrh Extract
34	weight				
35	0. %	3. %	0. %	1. %	Rosewood Extract
36	weight				
37	0. %	3. %	0. %	1. %	Rosehip Extract
38	weight				
39	0. %	1.5 %	0. %	1.5 %	Sea Parsley extract
40	weight				
41	0. %	3. %	0. %	1. %	Tangerine/Mandrine Extract
42	weight				
43	0. %	3. %	0. %	.50 %	Ylang Ylang Extract
44	weight				
45	0. %	3. %	.001 %	1. %	Grape Seed Extract
46	weight				
47	0. %	5. %	0. %	1.5 %	Fragrance Oil
48	weight				
49	0 %	10 %	0 %	1 %	Xanthan Gum
50					

TABLE 3

Whole Milk

WEIGHT	INGREDIENTS	%	Size 1 Kg	Size 1000 grams	Batch 2.20 kg to Lb
4.2	Distilled Water	42.1%	0.421	421	0.9
0.2480	Borax	2.5%	0.025	25	0.1
3.3200	Vegetable Shortening (Canola)	33.31%	0.333	333	0.7
0.4000	Avocado Oil	4.01%	0.040	40	0.1
0.2000	Vegetable glycerin	2.01%	0.020	20	0.0
0.6000	Beeswax	6.02%	0.060	60	0.1
0.6000	pasteurized sheep milk	6.02%	0.060	60	0.1
0.1000	germabeen 2	1.00%	0.010	10	0.0
0.1500	crodafos Ces	1.50%	0.015	15	0.0
0.1500	plumaria	1.50%	0.015	15	0.0
		0.00%	0.000	0	0.0
		0.00%	0.000	0	0.0
		0.00%	0.000	0	
		0.00%	0.000	0	
9.97	TOTAL	100%			

- Scaled the formula by about 3 times up
- Melt oil phase
- Boil water, mix with Borax
- Mix when oil is at 69C and Water is about 34C
- Lowered plumaria to 12.71
- Mixed at 3200 for 1.24mins, then 4100 for 1min, added milk, and lowered speed to 2600rpm for bout 50sec, then back high to 6700 for 10sec, then 2400 for 1.29 mins, at 45C lowered to 1700 rpm then left to cool and mixed more because top layer was cooling faster

TABLE 4

Concentrate Whole Milk

WEIGHT	INGREDIENTS	%	Size 1 Kg	Size 1000 grams	Batch 2.20 kg to Lb
4.292	Distilled Water	43.1%	0.431	431	0.9
0.2480	Borax	2.5%	0.025	25	0.1
3.2966	Vegetable Shortening (Canola)	33.08%	0.331	331	0.7
0.4000	Avocado Oil	4.01%	0.040	40	0.1
0.2000	Vegetable glycerin	2.01%	0.020	20	0.0
0.6000	Beeswax	6.02%	0.060	60	0.1
0.6000	pasteurized sheep milk	6.02%	0.060	60	0.1
0.1000	germaben 2	1.00%	0.010	10	0.0
0.1500	crodafos Ces	1.51%	0.015	15	0.0
0.0800	plumaria	0.80%	0.008	8	0.0
		0.00%	0.000	0	0.0
		0.00%	0.000	0	0.0
		0.00%	0.000	0	
		0.00%	0.000	0	
9.97	TOTAL	100%			

TABLE 5

Mix Dried milk and water for approx. 11mins @ 30°C and mix between 60-300rpm

Then use original formula and measure the amount of milk needed (in this formula it was 18g of dried milk) from X

Kept water at 33°C and oil at 69°C

WEIGHT	INGREDIENTS	%	Size 0.3 Kg	Size 300 grams	Record		Batch 0.66 kg to Lb
					weight (Kg/gr)	weight by Initials	
4.2	Distilled Water	42.1%	0.126	126			0.3
0.2480	Borax	2.5%	0.007	7			0.0
3.3200	Vegetable Shortening (Canola)	33.31%	0.100	100			0.2
0.4000	Avocado Oil	4.01%	0.012	12			0.0
0.2000	Vegetable glycerin	2.01%	0.006	6			0.0
0.6000	Beeswax	6.02%	0.018	18			0.0
0.6000	pasteurized sheep milk	6.02%	0.018	18			0.0
0.1000	germabeen 2	1.00%	0.003	3			0.0
0.1500	crodafos Ces	1.50%	0.005	5			0.0
0.1500	plumaria	1.50%	0.005	5			0.0
		0.00%	0.000	0			0.0
		0.00%	0.000	0			0.0
		0.00%	0.000	0			
		0.00%	0.000	0			
9.97	TOTAL	100%					

TABLE 6

wt. %	Ingredient
57.25 %	Water
3.45 %	Sodium Borate
8.1 %	Shea Butter
4.59 %	Coconut Oil
2.29 %	Avocado Oil
1.14 %	Vegetable Glycerine
3.69 %	Crdafos Cres
13.77 %	Sheep's Milk
1.14 %	Germaben 11
2.29 %	Grape Seed Oil
2.29 %	Cocoa Butter

TABLE 7