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Datasheet for the decision of 21 April 2016

Case Number: T 0491/13 - 3.3.07

Application Number: 04761521.6

Publication Number: 1670421

IPC: A61K8/06, A61Q5/02

Language of the proceedings: EN

Title of invention:
COSMETIC MICROEMULSION

Patent Proprietor:
Natura Cosméticos S.A.

Opponent:
Beiersdorf AG

Headword:
COSMETIC MICROEMULSION/Natura Cosméticos S.A.

Relevant legal provisions:
EPC Art. 56, 123(2), 123(3), 84

Keyword:
Main request and auxiliary requests 1, 1B, 2 - Inventive step (no)
Auxilary request 3 - Article 123(3) EPC (yes), Article 123(2) EPC (yes), Article 84 EPC (yes)
Auxiliary request 3 - Inventive step (yes)

Decisions cited:

Catchword:

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Boards of Appeal
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Case Number: T 0491/13 - 3.3.07

D E C I S I O N
of Technical Board of Appeal 3.3.07
of 21 April 2016

Appellant: (Patent Proprietor)	Natura Cosméticos S.A. Rua Amador Bueno 491 Santo Amaro, CEP-04752-900 Sao Paulo, SP (BR)
Representative:	Burt, Matthew Thomas Abel & Imray 20 Red Lion Street London WC1R 4PQ (GB)
Appellant: (Opponent)	Beiersdorf AG Unnastrasse 48 20253 Hamburg (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 13 December 2012 concerning maintenance of the European Patent No. 1670421 in amended form.**

Composition of the Board:

Chairman	J. Riolo
Members:	D. Boulois
	D. T. Keeling

Summary of Facts and Submissions

I. European patent No. 1 670 421 based on application No.04 761 521.6 was granted on the basis of a set of 18 claims.

II. Independent claim 1 as granted read as follows:

"1. A cosmetic microemulsion for removing of residues of leave-on products, shampoos and conditioners characterized by comprising:
- from 5% to 20%, by weight, of a non-ionic-surfactant type emulsifying agent,
- from 3% to 15%, by weight, of a co-emulsifying agent and
- from 1% to 8%, by weight, of a solvent selected from the group consisting of hexadecane and isomers thereof, dodecane and isomers thereof,
said amounts being based on the total weight of the microemulsion and said cosmetic microemulsion having particle diameters smaller than 100 nm."

III. An opposition was filed under Article 100 (a) and (c) EPC on the grounds that its subject-matter lacked novelty and inventive step and extended beyond the content of the application as filed.

IV. The appeals by the opponent and the patent proprietor lie from the decision of the opposition division to maintain the patent in amended form. The decision was based on the claims as granted as main request and on the claims filed as auxiliary request 1 with letter dated 29 December 2012 and as auxiliary requests 2 and 3 during oral proceedings.

The subject-matter of claim 1 of auxiliary request 1 differed from the subject-matter of claim 1 of the main request by the specification of the solvent, namely "hexadecane of isohexadecane as solvent in an amount ranging from 1% to 8% by weight".

Claim 1 of auxiliary request 2 was essentially similar to claim 1 of auxiliary request 1, with the reformulation of the feature relating to the solvent as follows: "from 1% to 8%, by weight, of a solvent selected from the group consisting of hexadecane and isohexadecane".

Claim 1 of auxiliary request 3 read as follows, the difference with respect to the main request being indicated by **bold** (addition) or ~~strike through~~ (deletion):

"1. A cosmetic microemulsion for removing of residues of leave-on products, shampoos and conditioners characterized by ~~comprising~~ **consisting of**:
- from 5% to 20%, by weight, of a non-ionic-surfactant type emulsifying agent,
- from 3% to 15%, by weight, of a co-emulsifying agent and
- **hexadecane or isohexadecane as solvent in an amount ranging from 1% to 8% by weight,**
- optional composants selected from
. moisturising agents
.fragance
.a preservative: 2-bromo-2-nitro-1,3-propanodiol, methyl paraben, propyl paraben, imidazolidinyl urea, phenoxyetanol, DMDM hydantoin, quaternium-15;
.viscosity modifiers: sodium chloride and coco monoetanol amide;

.viscosity donating agents: natural and synthetic polymers;
.antioxidant agents;
.antibacterial or antimicrobial agents;
.stylization agents;
.pearlizing agents: ethylene glycol disterate;
.opacifying agents: titanium dioxide;
.dyestuffs;
.vitamins;
.pH-adjusting agents: sodium hydroxide, calcium carbonate, citric acid, phosphoric acid and q.s.p. water, such as to reach 100% of the formulation,
said amounts being based on the total weight of the microemulsion and said cosmetic microemulsion having particle diameters smaller than 100 nm."

V. The documents cited during the opposition proceedings included the following:
(1): WO 01/21146
(2): DE 69904011 T2
(3): Prog. Colloid Polym. Sci., 101, 105-112 (1996)
(4): WO 98/15255

VI. According to the decision under appeal, the description did not provide a support for the introduction of percentage amounts of solvent as recited in claim 1 as granted. The amount of solvent originates from original claim 17, which referred back to original claim 1, and not to the original claims 6 or 10 referring to the other amounts claimed. The combination of features taken from claims 6, 10 and 17 was not supported by the originally filed claims.
The statement in the description relating to the amount of solvent related only to hexadecane or isohexadecane, but not to dodecane or its isomer (see original

application on page 9, lines 15-18). It was thus also not possible to derive directly and unambiguously from the description the combination of specific amounts of emulsifying and co-emulsifying agents, defined in their broadest sense, with specific amounts of a particular solvent as required by claim 1 as granted. The main request did not meet the requirements of Article 123(2) EPC for these reasons.

The amended claim 1, because of its open type formulation, allowed the further presence of dodecane (b) even in major amounts. Consequently, the extent of protection of amended claim 1 of auxiliary request 1 had been extended in comparison with that of the granted claim 1, contrary to the requirements of Article 123(3) EPC.

Since claim 1 of auxiliary request 2 was still drafted with an open wording, the same objection under Article 123(3) EPC applied as for auxiliary request 1, and this request failed for the same reasons.

In auxiliary request 3, a basis for all the ingredients claimed was found in the description. Auxiliary request 3 thus met the requirements of Article 123(2) and 123(3) EPC.
The opposition division did not see a lack of clarity in the presence of optional compounds in a composition defined by the closed wording “consisting of”, and auxiliary request 3 met the requirements of Article 84 EPC.

As regards inventive step, the opposition division considered both documents (3) and (4) as closest prior art.

Document (3) described the physico-chemical properties of microemulsions based on alkyl polyglycosides and showed in Figure 8 and Table 1 a microemulsion comprising 5% of APG (non-ionic surfactant), 3% of lauryl alcohol ether sulfate (anionic surfactant), 16% of sorbitan monolaurate SML (non-ionic surfactant), and 16% of dioctyl cyclohexane, namely a isodocosane. The subject-matter of claim 1 of auxiliary request 3 differed in the nature and the amount of oil. In the absence of any data demonstrating an effect, the technical problem was regarded as the provision of alternative microemulsions. None of the cited documents (1), (2) or (4) gave any clear incentive to combine the the features of claim 1 of auxiliary request, which was inventive over document (3).
Document (4) disclosed glyceryl laurate as emulsifying agent, 3.833% of co-emulsifying agents (glyceryl isostearate and dodecyl polyacrylate) and 3.333% of cyclomethicone. Claim 1 of auxiliary request 3 differed from this disclosure in that a hexadecane was used instead of cyclomethicone as solvent, and the problem was the provision of an alternative microemulsion. None of the cited documents gave a hint that when replacing the solvents, the microemulsion would have been maintained, and thus claim 1 of auxiliary request 3 was also inventive over document (4).

VII. The opponent (hereafter called appellant-opponent) and the patent proprietor (hereafter called appellant-proprietor) both filed an appeal against said decision.

VIII. With the statement setting out the grounds of appeal dated 22 April 2013 the appellant-proprietor submitted a main request and first to seventh auxiliary requests.

The subject-matter of claim 1 of the main request was similar to claim 1 as granted.

The subject-matter of the independent claim 1 of auxiliary request 1 differed from the subject-matter of claim 1 of the main request by the specification of the solvent, namely "from 1% to 8% by weight of said solvent, said solvent being selected from hexadecane or isohexadecane".

The subject-matter of claim 1 of auxiliary request 2 was identical to claim 1 of auxiliary request 3 deal with in the decision of the opposition division.

The subject-matter of claim 1 of auxiliary request 3 reads as follows, difference(s) compared with claim 1 of the main request or as maintained by the opposition division shown in bold:
"1. A cosmetic microemulsion for removing of residues of leave-on products, shampoos and conditioners characterized by comprising:
- from 5% to 20%, by weight, of a non-ionic-surfactant type emulsifying agent,
- from 3% to 15%, by weight, of a co-emulsifying agent, **said co-emulsifying agent being a combiantion of coco glycoside and glyceryl oleate**,and
- from 1% to 8%, by weight of said solvent, **said solvent being selected from hexadecane or isohexadecane**,
said amounts being based on the total weight of the microemulsion and said cosmetic microemulsion having particle diameters smaller than 100 nm."

IX. With a letter dated 26 February 2016, the appellant-proprietor filed additional auxiliary requests 1B, 3B and 5B.

The subject-matter of claim 1 of auxiliary request 1B reads as following, difference(s) compared with claim 1 of the main request or as maintained by the opposition division shown in bold:
"1. A cosmetic microemulsion for removing of residues of leave-on products, shampoos and conditioners characterized by comprising:
- from 5% to 20%, by weight, of a non-ionic-surfactant type emulsifying agent,
- from 3% to 15%, by weight, of a co-emulsifying agent and
- from 1% to 8%, by weight, of a solvent selected from the group consisting of hexadecane and isomers thereof, dodecane and isomers thereof,
said amounts being based on the total weight of the microemulsion and said cosmetic microemulsion having particle diameters smaller than 100 nm; **wherein hexadecane or isohexadecane are used as solvent c) in an amount ranging from 1% to 8% by weight**".

X. A communication from the Board, dated 18 March 2016, was sent to the parties.

XI. With a letter dated 15 April 2016, the appellant-proprietor informed the Board and the appellant-opponent that it would not attend the oral proceedings.

XII. Oral proceedings took place on 21 April 2016.

XIII. The arguments of the appellant-opponent, as far as relevant to the present decision, may be summarized as follows:

Main request

This request did not meet the requirements of Article 123(2) EPC in view of a selection in multiple lists of the quantities of non ionic surfactant, co-surfactant and quantity and nature of solvents. As regards the solvents, the description on page 9 gave a a basis for the claimed amounts only for hexadecane and isohexadecane.

Auxiliary request 3 - Article 123(3) EPC

The subject-matter of claim 1 of auxiliary request 3 did not meet the requirements of Article 123(3) EPC, in view of its open limitation by the term "comprising" and the restriction to specific solvents.

Auxiliary request 3 - Article 123(2) EPC

The subject-matter of claim 1 did not meet the requirements of Article 123(2) EPC, as regard the interpretation of the term "or" in "said solvent being selected from hexadecane **or** isohexadecane". This formulation included mixture of solvents which was not originally disclosed.

Auxiliary request 3 - Article 84 EPC

The subject-matter of claim 1did not meet the requirements of Article 84 EPC, as regard the term "or" in "said solvent being selected from hexadecane **or** isohexadecane" and the term "combination of coco glycoside and glyceryl oleate" with reference to its definition given in the description.

As regards the term "or", it was not clear if this formulation involved a mixture or the selection from alternatives.
The term "a combination of coco glycoside and glyceryl oleate" was also unclear in view of its definition in the description, and corresponding reference to the commercial product Lamesoft® PO 65.

Auxiliary request 3 - Inventive step

Document (4) was seen as the closest prior art. Example 10 disclosed microemulsions made form cyclomethicone as solvent. Since there was no specific effect linked with the use of hexadecane or isohexadecane, the problem was the provision of an alternative microemulsion. The claimed solvents were known, and the skilled person would have replaced cyclomethicone by hexadecane or isohexadecane, in particular since documnet (4) suggested the use of silicone oils or hydrocarbons as solvents.

Document (2) was an alternative closest prior art, and disclosed nanoemulsions having the same size and characteristics than the microemulsions claimed in claim 1 of auxiliary request 3. Said nanoemulsions were also prepared by high pressure homogenization, and the skilled person would see the analogies between the disclosed nanoemulsions and the claimed microemulsions. Example 2 disclosed a nanoemulsion made with isohexadecane, 4.5% by weight of Crodesta F50 and 0.5% by weight of N-stearoyl-L-glutamic acid ad surfactant system. The problem to solve was the provision of alternative compositions, and the solution of changing the amounts and nature of co-surfactant was obvious. The description mentioned indeed that esters of sugars could be used as surfactants.

XIV. The written arguments of the appellant-proprietor, as far as relevant to the present decision, may be summarized as follows:

Main request

The subject-matter of claim 1 of the main request met the requirements of Article 123(2) EPC, and found a basis in original claim 1 combined with dependent claims 6, 10 and 17. The approach of the opposition division was very restrictive and not in line with the practice.

As regards inventive step, document (2) could not be taken as closest prior art, since it related to nano-emulsions, which were different from micro-emulsions.

Document (3) described the physico-chemical properties of various micro-emulsions, did not disclose specific cosmetic compositions, and merely mentioned among other uses that said micro-emulsions were an interesting base for cosmetic products. Figure 4 and 8 disclosed micro-emulsions made from alyklypolyglycosides/lauryl alcohol ether sulfate/ sorbitan monolaurate/dioctyl cyclohexane.
It was not obvious to the skilled person to make the various modifications to the nature and amount of the components in the composition of Figure 4 of document (3) to arrive at the claimed subject-matter.

Document (4) disclosed micro-emulsions comprising cyclomethicone in example 10. None of the cited documents taught or suggested that replacing a volatile silicone in a specific surfactant system with hexadecane and dodecane or their isomers would have

retained a micro-emulsion. The claimed invention was inventive over document (4).

Auxiliary request 1

Claim 1 of auxiliary request 1 had essentially the same scope as claim 1 of the third auxiliary request filed during the oral proceedings before the opposition division, which decided that that claim was novel and inventive.

Auxiliary request 1B

This request was filed to overcome the objections under Article 123(3) EPC.

Auxiliary request 2

This request was the same as the third auxiliary request as filed during the oral proceedings before the opposition division. That request was found to meet all the requirements of the EPC, in particular of Article 56 EPC.

Auxiliary request 3

This request had never been considered in the opposition division's decision. In view of the comments in the opposition division's preliminary opinion, this request should meet the requirements of Articles 123(2) and (3), 84, 54 and 56 EPC.

XV. Requests

The appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked.

The appellant (patent proprietor) had requested in writing that the decision under appeal be set aside and the patent maintained on the basis of the claims of the Main Request or of one of the First to the Seventh Auxiliary Requests, filed with the grounds of appeal on 22 April 2013, or on the basis of the claims of Auxiliary Requests 1B, 3B or 5B, filed by letter of 26 February 2016.

Reasons for the Decision

1. Main request - Inventive step

1.1 The invention relates to a cosmetic micro-emulsion that comprises an emulsifying agent that is a non-ionic surfactant, a co-emulsifying agent and a specific solvent.

With the passage of time, the hair of the user of shampoo begins to have an opaque and dirty aspect due to the retention of residues and impurities (see par. [0003] of the specification EP 1 670 421 B1). The function of the cosmetic microemulsion of the present invention is to clean the hair by actuating on the removal of shampoo residues retained on it and on the scalp, being used as a pre-shampoo, that is, before applying the usual shampoo, without causing the scales of the hair to open, which would damage the cuticle. The cosmetic micro-emulsion of the present invention acts on the removal of residues of "leave-on" products, shampoos and conditioners (see par. [0009]).

1.2 The opposition division considered both documents (3) and (4) as closest prior art in its decision. The appellant-opponent also saw in document (2) the closest prior art.

1.2.1 Document (2) relates to nanoemulsions with oil globules of a very fine particle size, that is to say a number-average size of less than 100 nm (see page 2 , third par.). Example 2 shows a make-up removing gel in nanoemulsion form comprising a non-ionic surfactant at 4.5% by weight, a co-surfactant at 0.5% by weight and C11-C13 Isoparaffin (M.W. = 170), 2.5% and Isohexadecane 2.5%. Isododecan and isohexadecane are disclosed as potential compounds of the oil phase (see page 8, first line). This document does not relate to micro-emulsions, and its aim is explicitly to overcome the disadvantages of said microemulsions (see page 3, third par.). Document (2) thus teaches away from the preparation of micro-emulsions, and as such is disqualified as potential closest prior art.

1.2.2 Document (3) relates to microemulsions comprising an non-ionic surfactant, namely an alkyl polyglycoside (APG) and their use in cosmetic compositions (see Abstract). It presents a study on a microemulsion system comprising APG, dodecane, a co-emulsifying agent, namely SML (sorbitan monolaurate), and water; a diagram showing the phase behavior according to the respective APG and SML concentrations is given in Figure 2 (see also corresponding text on pages 92-93). Said figure 2 shows that it is possible to prepare a micro-emulsion, especially at the optimal mixing ratio of APG/SML of 1:1. The diagram of figure 2 further shows specifically that microemulsions are formed *inter alia* at a concentration of APG over 8% by weight and a

weight ratio of 1:1 with the co-surfactant SML.
Document (3) emphasizes the importance of the choice of the emulsifier system, their mixing ratio and their total concentration in the formation of micro-emulsions and mentions the use of such microemulsions in cosmetic.
Another microemulsion system based on H2O/APG/SML/ dioctyl cyclohexane is also disclosed in document (3).
This document does not disclose directly and unambiguously a composition with the amount of solvent claimed in claim 1 of the main request.

1.2.3 Document (4) relates to microemulsion gels of the oil-in-water type. Example 10 shows a face cleansing gel comprising inter alia a non-ionic surfactant, namely polyglyceryl laurate at 5.333% by weight, a co-surfactant namely octyl isostearate at 3.333% by weight, and cyclomethicone at 3.333% by weight.
This document does not disclose a microemulsion made form hexadecane or dodecane or their isomers.

1.2.4 The Board is of the opinion that document (2) not only presents a similarity of the technical problem of the claimed invention, but above all discloses a very close combination of features which constitutes the most promising starting point for assessing the obviousness of the claimed invention. Document (2) appears therefore to represent the closest prior art.

1.2.5 The problem as set out in the description of the contested patent may be seen in the provision of a cosmetic microemulsion intended to clean the hair by actuating on the removal of shampoo residues, leave-on products and conditioners retained on it (see claim 1 and par. [0009]).

1.3 As a solution to this alleged problem, claim 1 of the main request proposes the cosmetic microemulsion of claim 1 comprising in particular from 1% to 8% by weight of a solvent selected from the group consisting of hexadecane and isomers thereof, dodecane and isomers thereof.

1.4 It has to be investigated whether there is sufficient evidence supporting the alleged effect.

1.4.1 The patent in suit provides in example 2 tests that were performed to evaluate the performance of the cosmetic compositions of the invention versus pre-shampoos produced by Cognis (Cognis 19) and by Johnson & Johnson (KB2). From the photos illustrated in figure 1 it may be noted that the formula MI04 (cosmetic microemulsion of the present invention) exhibited the best removal of dirt among the evaluated formulations and according to the graph in figure 2 , one can conclude that the microemulsion of the present invention (MI04) is superior to the other compositions.

Said tests do not, however, provide any indication as regards the composition of the comparative cosmetic pre-shampoos. Thus, none of the examples of the contested patent offer any evidence to support the assumptions of the existence of an improvement over the teaching of document (3) linked with the amount of solvent.

1.4.2 As no evidence of an effect has been demonstrated in the description of the patent, the Board concurs with the conclusion of the opposition division in its decision that the problem to be solved consists in the provision of an alternative cosmetic microemulsion.

The contested patent comprises two examples of microemulsions made respectively with isohexadecane and isododecane as solvents. In view of the information found in these examples, the Board is convinced that the problem has been plausibly solved.

1.5 It remains to be determined whether the solution was obvious to the person skilled in the art.

Since the problem consists in the provision of an alternative microemulsion, it belongs to the normal activity of the skilled person to accomplish routine modifications, such as the determination of the amount of the specific solvent dodecane suitable for making a stable microemulsion. This specific amount can only be seen as an arbitrary choice that would be made as a matter of routine by a skilled person.

The solution claimed in claim 1, namely the specific quantities of a solvent, i.e. hexadecane, dodecane or their isomers appears to be obvious in view of the disclosure of document (3).

1.6 Therefore, the main request does not meet the requirements of Article 56 EPC.

2. Auxiliary request 1 - Inventive step

The subject-matter of claim 1 of auxiliary request 1 differs from the subject-matter of claim 1 of the main request by the specification of the solvent, namely "*from 1% o 8% by weight of said solvent, said solvent being selected from hexadecane or isohexadecane*".

2.1 As for the main request, document (2) remains the closest prior art, and the problem to be solved still

consists in the provision of an alternative cosmetic microemulsion.

2.2 The solution, namely the cosmetic micro-emulsion of claim 1 comprising in particular from 1% to 8% by weight of a solvent selected from the group consisting of hexadecane or isohexadecane remains obvious in view of the teaching of the prior art.

Document (3) showed unambiguously that the parameters affecting the formation of microemulsions were the surfactant types, the specific combinations of surfactant and co-surfactant, as well as their mixing ratio and the total emulsifier concentration in the micro-emulsion. The nature of the oil phase has only a limited influence on the formation of microemulsions. Moreover, the use of hexadecane or its isomer is known as oil phase in the formation of submicron type emulsions, as shown by document (2) which suggests *inter alia* the use of isododecane or isohexadecane as oily phase (see document (2), page 8,line 1).

2.3 The claimed subject-matter is therefore obvious and auxiliary request 1 does not meet the requirements of Article 56 EPC.

3. Auxiliary request 1B - Inventive step

The subject-matter of claim 1 of auxiliary request 1B differs from the subject-matter of claim 1 of auxiliary request 1 by a reformulation of the specification of the solvent, namely by specifying that the composition comprises "*from 1% o 8% by weight of said solvent, said solvent selected from the group consisting of hexadecane and isomers thereof and dodecane and isomers thereof*" and "*wherein hexadecane or isohexadecane are*

used as solvent c) in an amount ranging from 1% to 8% by weight".

This reformulation, made to avoid an extension of protection over the subject-matter as granted, does not have any incidence on the subject-matter considered for the assessment of inventive step, in comparison to the subject-matter of claim 1 of auxiliary request 1.

Hence, the amendments do not have any incidence on the reasoning and conclusions on inventive step outlined for auxiliary request 1, which apply *mutatis mutandis* to claim 1 of auxiliary request 1B. No inventive step can be seen as a result of this amendment.

Therefore, auxiliary request 1B does not meet the requirements of Article 56 EPC.

4. Auxiliary request 2 - Inventive step

The subject-matter of claim 1 of auxiliary request 2 differs from the subject-matter of claim 1 of auxiliary request 1 by the further specification of the presence of optional components such as "*optional composants selected from*
. moisturising agents
.fragance
.a preservative: 2-bromo-2-nitro-1,3-propanodiol, methyl paraben, propyl paraben, imidazolidinyl urea, phenoxyetanol, DMDM hydantoin, quaternium-15;
.viscosity modifiers: sodium chloride and coco monoetanol amide;
.viscosity donating agents: natural and synthetic polymers;
.antioxidant agents;
.antibacterial or antimicrobial agents;

.stylization agents;
.pearlizing agents: ethylene glycol disterate;
.opacifying agents: titanium dioxide;
.dyestuffs;
.vitamins;
.pH-adjusting agents: sodium hydroxide, calcium carbonate, citric acid, phosphoric acid".

As regards inventive step, the closest prior art and the problem remain the same as for auxiliary request 1. The presence in claim 1 of the list of components does not change the reasoning and conclusions reached above for auxiliary request 1, in view of its optional nature and of the fact that said components are very common, and as such cannot render the claimed subject-matter inventive.

Consequently, auxiliary request 2 does not meet the requirements of Article 56 EPC.

5. Auxiliary request 3

5.1 Article 123(3) EPC

5.1.1 The subject-matter of claim 1 as granted read as follows:
"1. A cosmetic microemulsion for removing of residues of leave-on products, shampoos and conditioners characterized by **comprising**:
...
- from 1% to 8%, by weight, of a solvent selected from the group consisting of **hexadecane and isomers thereof**, **dodecane and isomers thereof**,

...smaller than 100 nm."

The use in claim 1 of the term "comprising" in connection with a numerical range defining the amount of a component implicitly means that the protection conferred by the claim does not extend to compositions containing that component in amounts outside the defined range. The term thus implies an implicit proviso which excludes the presence of that component outside of the claimed range.

In the present case, claim 1 as granted was *inter alia* limited by the quantitative and qualitative presence of a solvent which could exclusively be selected from **"hexadecane and isomers thereof, dodecane and isomers thereof"**. The wording "**a solvent** selected from" of claim 1 explicitly excludes the presence of a mixture of solvents or the possibility that more than one solvent from the specific list might be present. Moreover, the solvents disclosed relate to a specific list and not to a general chemical class of solvents, such as in the present case the alkanes.

In view of the terminology used in claim 1, it follows that the interpretation of the scope of claim 1 as granted implies the following:
- one and only one of the listed solvents, namely **"hexadecane and isomers thereof, dodecane and isomers thereof"**, is selected and is part of the composition. The protection conferred by claim 1 does not extend to compositions containing that specific selected solvent in amounts outside the defined range.
- the wording does not exclude the presence of a further potential unselected solvent from the claimed list, namely **"hexadecane and isomers thereof, dodecane and isomers thereof"**, in addition to **t**he specific selected solvent. In other words the claimed microemulsion comprises in its scope a composition

comprising for instance 8% by weight of hexadecane as selected solvent, and potentially further 1% by weight of dodecane or any other isomer of hexadecane or of dodecane.

In conclusion, the protection conferred by claim 1 does not extend to compositions containing a specific selected solvent in amounts outside the defined range, but does not exclude the further presence of a second unselected solvent different from the selected solvent from the claimed list in any amount.

5.1.2 The subject-matter of claim 1 of auxiliary request 3 has now been reformulated as follows:
"1. A cosmetic microemulsion characterized by comprising a non-ionic surfactant type emulsifying agent, a co-emulsifying agent and **a solvent**, said microemulsion being for removing of leave-on products, shampoos and conditioners, characterized by comprising:
...
- from 1% to 8% by weight, of **said** solvent, said solvent being selected from **hexadecane or isohexadecane**,

...smaller than 100 nm."

An objection under Article 123(3) EPC against auxiliary request 3 arose from the limitation of the solvent to the specific and limited list of hexadecane and isohexadecane, whereas the original list comprised also dodecane and its isomers, as well as possible other isomers of hexadecane.

When a granted claim directed to a composition defined in an open manner, by means of the term "comprising", and including the presence of a component belonging to

a class or list of compounds in a quantity defined by a range is later amended by restricting the class or list of compounds through the deletion of one or more possible compounds, the wording of the granted and amended claims may be such that the deleted compounds may still implicitly be present, but with no limitation in quantity, according to the amended claim, therefore resulting in an extension of the protection conferred contrary to the requirements of Article 123(3) EPC (see T 1360/11, T 2017/07, T 0832/08, T 0172/07, T 1312/08, T 0869/10, T 0287/11).

The present case differs however from the cited cases since it does not relate to a restriction from a list of compounds comprising one or more of said compounds (here the solvent) or a a mixture thereof, or to a list defined broadly as a general chemical class or a broad chemical formula.

This situation also does not apply to the present case, since, as highlighted in point 5.1.1. above, the protection conferred by claim 1 as granted extends to compositions containing the selected component in amounts inside the defined range and potentially one or more supplementary unselected compounds in any range.

Finally, the amended preamble of claim 1 of auxiliary request 3 makes clear that the composition comprises "a solvent", and further specifies the nature of the solvent by reference to "said solvent", namely "from 1% to 8% by weight, of said solvent, said solvent being selected from hexadecane or isohexadecane". This wording makes clear that the claimed solvent is the only solvent present in the composition and excludes the presence of a further solvent, and thus of the now deleted dodecane and isomers of dodecane.

The wording provides claim 1 with a scope which is not extended with regard to the granted claim 1.

5.1.3 Consequently, auxiliary request 3 meets the requirements of Article 123(3) EPC.

5.2 Article 123(2) EPC

5.2.1 The subject-matter of claim 1 of auxiliary request 3 originates from the combination of the subject-matter of independent claim 1 and of the subject-matter of its directly dependent claims 6, 10, 13, 14 and 17 as originally claimed (see the application document WO2005/020938). The specification of the co-emulsifying agent, namely the "combination of coco glycoside and glyceryl oleate", is a preferred embodiment of the invention disclosed on page 7, lines 16-20 of the original application.

All the claimed subject-matter is thus derivable directly and unambiguously from the application as originally filed and auxiliary request 3 therefore meets the requirements of Article 123(2) EPC.

5.2.2 The Board could not follow the arguments of the opposition division in its decision under Article 123(2) EPC against claim 1 as granted, namely that the combination of features taken from claims 6, 10 and 17 was not supported by the originally filed claims.

Claims 6, 10 and 17 as originally filed were all dependent *inter alia* on claim 1 and related respectively to the amounts of emulsifying agent, co-emulsifying agent and solvent. Nothing prevents the incorporation of the subject-matter of a dependent

claim in the subject-matter of an independent claim. The objection of the opposition division was thus unfounded.

5.3 Article 84 EPC

5.3.1 The subject-matter of claim 1 of auxiliary request 3 was objected to by the respondent as regards the term "or" in "said solvent being selected from hexadecane **or** isohexadecane" and the term "combination of coco glycoside and glyceryl oleate" with reference to its definition given in the description.

5.3.2 As to the term "or", the Board does not see any unclarity or ambiguity. The wording of claim 1 makes clear that its subject-matter relates to a composition wherein a unique solvent is selected from two possibilities, namely "hexadecane" and "isohexadecane" excluding the possibility of their combination or a mixture thereof. Indeed, in the presence of the term "a solvent" and the further reference thereto "said solvent" in combination with the term "selected from" in claim 1, the skilled reader can only interpret the subject-matter of claim 1 as comprising **one and only one solvent** chosen from hexadecane and isohexadecane. A skilled person would in no way interpret the subject-matter of claim 1 as potentially comprising a mixture of hexadecane and isohexadecane.

As to the term "combination of coco glycoside and glyceryl oleate", this term is disclosed in paragraph [0029] of the the description of the specification EP 1 670 421 B1, namely as "a combination of coco glycoside and glyceryl oleate, more specifically Lamesoft® PO 65, produced by Cognis". In view of this passage, there is no need to specify that the claimed

combination might correspond to the commercial product Lamesoft® PO 65, since this is a more preferred embodiment, and since there is no unclarity or ambiguity as to the claimed "combination of coco glycoside and glyceryl oleate", which is a simple combination of two known chemical products.

5.4 Inventive step

5.4.1 The subject-matter of claim 1 of auxiliary request 3 differs from the subject-matter of claim 1 of the main request by the specification of the solvent, namely "from 1% o 8% by weight of said solvent, said solvent being selected from hexadecane or isohexadecane", and by the specification of the co-emulsifying agent, namely "from 3% to 15%, by weight, of a co-emulsifying agent, said co-emulsifying agent being a combination of coco glycoside and glyceryl oleate".

5.4.2 As for the main request, document (2) remains the closest prior art, and the problem to be solved still consists in the provision of an alternative cosmetic micro-emulsion.

5.4.3 The solution is the cosmetic micro-emulsion of claim 1 comprising in particular "from 1% to 8% by weight of a solvent selected from the group consisting of hexadecane or isohexadecane" and "from 3% to 15%, by weight, of a co-emulsifying agent, said co-emulsifying agent being a combination of coco glycoside and glyceryl oleate".

5.4.4 Example 1 of the contested patent shows the formation of a microemulsion comprising isohexadecane and the claimed combination of co-emulsifying agent, while example 2 shows a microemulsion made from isododecane

and the same co-emulsifying agent. In view of the close structure of the different solvents, the Board has no reason to doubt that a microemulsion can also be prepared with hexadecane. The appellant-opponent did not bring any argument on this point.

In view of the information found in the examples of the contested patent, the Board is thus convinced that the problem has been plausibly solved.

5.4.5 It remains to be determined whether the solution was obvious to the person skilled in the art.

The specific combination of coco glycoside and glyceryl oleate for the preparation of microemulsions is not known from any of the cited prior art.

The Board could in particular not follow the argumentation of the appellant-opponent which saw in the teaching of document (2) on page 5 a disclosure of this specific combination. The cited passage mentions among many possibilities esters of fatty acids with glucose, but does not give any teaching as to any of the claimed surfactants, namely coco glycoside and glyceryl oleate, or even less as to their combination.

In addition to this, it is clear form the teaching of document (3) that the amount and nature of the surfactants have a paramount importance in the ability to form a microemulsion. It was therefore not predictable that a microemulsion could be formed with this specific combination of co-emulsifying agent and solvent.

The claimed subject-matter is therefore not obvious.

5.4.6 The conclusion is the same when starting from document (4), which was considered by the appellant-opponent as an alternative closest prior rat.

Indeed, the problem to be solved and the solution remain the same.

As to the obviousness of the solution, the Board notes that document (4) neither discloses nor suggests the use of the claimed combination of co-emulsifying agents or even of an an alkane as solvent. The solution thus becomes even less obvious than when taking document (3) as closest prior art in view of the arguments developed above under point 5.4.

This also confirms indirectly that document (3) was closer prior art than document (4).

The claimed subject-matter is therefore also not obvious over document (4).

5.4.7 Auxiliary request 3 meets the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Opposition Division with the order to maintain the patent on the basis of the claims of the Third Auxiliary Request, filed with the grounds of appeal on 22 April 2013, and a description to be adapted.

The Registrar: The Chairman:

S. Fabiani J. Riolo

Decision electronically authenticated