

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen
(D) [] No distribution

**Datasheet for the decision
of 12 May 2009**

Case Number: T 0574/07 - 3.3.10

Application Number: 94108880.9

Publication Number: 0629411

IPC: A61L 15/18

Language of the proceedings: EN

Title of invention:

Absorbent composition and disposable diaper containing the same

Patentee:

Sanyo Chemical Industries, Ltd.

Opponents:

Nippon Shokubai Co., Ltd.
Stockhausen GmbH

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56, 111(1), 123(2)
RPBA Art. 13(1)

Keyword:

"Main request and auxiliary request 4: amendment not allowable beyond content of application as filed"

"Auxiliary request 1: novelty (no)"

"Auxiliary request 2: remittal (no); inventive step (no) - redefinition of technical problem - obvious alternative"

"Auxiliary request 3: not admitted into the proceedings - late filed - not clearly allowable"

Decisions cited:

T 0020/81, T 0153/85, T 0197/86

Catchword:

-



Case Number: T 0574/07 - 3.3.10

DECISION
of the Technical Board of Appeal 3.3.10
of 12 May 2009

Appellant 1: Sanyo Chemical Industries, Ltd.
(Patent Proprietor) 11-1, Ichinohashi-nomoto-cho
Higashiyama-ku
Kyoto-shi
Kyoto-fu, 605-0995 (JP)

Representative: Vossius & Partner
Siebertstrasse 4
D-81675 München (DE)

Appellant 2: Stockhausen GmbH
(Opponent 2) Bäckerpfad 25
D-47805 Krefeld (DE)

Representative: Kahlhöfer, Hermann
KNH Patentanwälte
Kahlhöfer Neumann Herzog Fiesser
Postfach 10 33 63
D-40024 Düsseldorf (DE)

Respondent: Nippon Shokubai Co., Ltd.
(Opponent 1) 1-1, Koraibashi 4-chome, Chuo-ku, Osaka-shi
Osaka 541-0043 (JP)

Representative: Glawe, Delfs, Moll
Patentanwälte
Postfach 26 01 62
D-80058 München (DE)

Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
8 February 2007 concerning maintenance of
European patent No. 0629411 in amended form.

Composition of the Board:

Chairman: R. Freimuth
Members: P. Gryczka
F. Blumer

Summary of Facts and Submissions

I. Two notices of opposition were filed in which revocation of the European patent Nr. 629 411 in its entirety was requested on the grounds of lack of novelty and inventive step and insufficiency of disclosure (Article 100(a) and (b) EPC). The objections were based, *inter alia*, on documents

(2) US-Re-32 649,

(6) EP-A-0 480 031 and

(12) DE-C1 4 020 780.

In an interlocutory decision issued in writing on 8 February 2007, the Opposition Division found that the European patent could be maintained in amended form on the basis of claims 1 to 7 of the third auxiliary request then pending.

The Opposition Division came to the conclusion that the amended claims fulfilled the requirements of Articles 84 and 123 (2) and (3) EPC, that the invention was sufficiently disclosed and that the claimed production process was novel and involved an inventive step.

II. The Proprietor of the patent in suit (Appellant 1) and the Opponent 02 (Appellant 2) lodged an appeal against the above decision.

III. With a letter dated 14 January 2008, the Appellant 1 filed ten sets of claims as main request and auxiliary requests 1 to 9. With a letter dated 20 April 2009 he

filed a further auxiliary request 1b. At the oral proceedings held in front of the Board on 12 May 2009 he withdrew the auxiliary requests 1b, 2 to 4, and 6 to 8 previously filed and renumbered the auxiliary requests 5 and 9 respectively into auxiliary requests 2 and 4. In addition, he filed at the oral proceedings a fresh auxiliary request 3.

Claim 1 of the main request reads as follows:

"1. A powdery or particulate absorbent composition comprising 100 parts by weight of water absorbing resin particles (A) and 0.05 to 5 parts by weight of a hydrophilic silicon dioxide fine powder (B) and being obtainable by blending the resin particles (A) and the fine powder (B), said composition having a particle size distribution such that the amount of particles having a particle size of larger than 850 μm is not more than 10% by weight and the amount of particles having a particle size of smaller than 150 μm is not more than 10% by weight;
wherein said water absorbing resin particles (A) comprise an acrylic acid salt and/or an acrylic acid as a main monomer of the resulting polymer, said water absorbing resin particles having a structure which is crosslinked with a first crosslinking agent (a) having at least two double bonds capable of copolymerizing with the monomer and a second crosslinking agent (b) having at least two functional groups capable of covalently binding to a carboxylic group, said water absorbing resin particles (A) being obtainable by polymerizing a monomer mixture of the acrylic acid and the acrylic acid salt with the crosslinking agent (a) and reacting carboxylic groups in the resulting

hydrogel polymer with the crosslinking agent (b) or by polymerizing the acrylic acid with the crosslinking agent (a) and partially neutralizing carboxylic groups in the resulting hydrogel polymer with an alkali metal salt, and further crosslinking carboxylic groups in the hydrogel polymer with a crosslinking agent (b); and wherein

said hydrophilic silicon dioxide fine powder (B) has a specific surface area of 50 to 450 m²/g and a water affinity of not less than 70%."

Claim 1 of the auxiliary request 1 reads as follows:

"1. A powdery or particulate absorbent composition comprising 100 parts by weight of water absorbing resin particles (A) and 0.05 to 5 parts by weight of a hydrophilic silicon dioxide fine powder (B), said composition having a particle size distribution such that the amount of particles having a particle diameter of larger than 710 μm is not more than 5% by weight, and the amount of said particles having a particle diameter of smaller than 150 μm is not more than 5% by weight;

wherein said water absorbing resin particles (A) comprise an acrylic acid salt and/or an acrylic acid as a main monomer of the resulting polymer, said water absorbing resin particles having a structure which is crosslinked with a first crosslinking agent (a) having at least two double bonds capable of copolymerizing with the monomer and a second crosslinking agent (b) having at least two functional groups capable of covalently binding to a carboxylic group; and wherein

said hydrophilic silicon dioxide fine powder (B) has a specific surface area of 50 to 450 m²/g and a water affinity of not less than 70 %."

Claim 1 of the auxiliary request 2 relates to a disposable diaper comprising a powdery or particulate absorbent composition substantially as defined in claim 1 of the auxiliary request 1 and "a fibrous material, wherein the amount of said absorbent composition for the disposable diaper is 30 to 70% by weight based on the total weight of said fibrous material and said composition".

Claim 1 of the auxiliary request 3 reads as follows:

"1. A process for the production of a powdery or particulate absorbent composition comprising a mixture of water absorbing resin particles (A) having a structure which is crosslinked with a crosslinking agent (a) and a crosslinking agent (b), and a hydrophilic silicon dioxide powder (B) having a specific surface area of 50 to 450 m²/g and a water affinity of not less than 70%, comprising the steps of polymerizing, via aqueous solution polymerization, a monomer mixture of an acrylic acid and an acrylic acid salt as a main monomer of the resulting polymer with a crosslinking agent (a) having at least two double bonds capable of copolymerizing with the monomers and reacting carboxylic groups in the resulting polymer with a crosslinking agent (b) having at least two functional groups capable of covalently binding to a carboxylic group
or

polymerizing, via aqueous solution polymerization, an acrylic acid as a main monomer of the resulting polymer with a crosslinking agent (a) having at least two double bonds capable of copolymerizing with the monomers and partially neutralizing carboxylic groups in the resulting polymer with an alkali metal salt, and further crosslinking carboxylic groups in the resulting polymer with a crosslinking agent (b) having at least two functional groups capable of covalently binding to a carboxylic group, to provide water absorbing resin particles (A); blending 100 parts by weight of the water absorbing resin particles (A); and 0,05 to 5 parts by weight of a hydrophilic silicon dioxide fine powder (B) having a specific surface area of 50 to 450 m²/g and a water affinity of not less than 70%; and adjusting the particle size distribution such that the amount of particles having a particle size of larger than 710 µm is not more than 5% by weight and the amount of particles having a particle size of smaller than 150 µm is not more than 5% by weight."

Claim 1 of the auxiliary request 4 reads as follows:

"1. A process for the production of a powdery or particulate absorbent composition comprising the steps of polymerizing, via aqueous solution polymerization, a monomer mixture of an acrylic acid and an acrylic acid salt as a main monomer of the resulting polymer with a crosslinking agent (a) having at least two double bonds capable of copolymerizing with the monomers and reacting carboxylic groups in the resulting hydrogel polymer with a crosslinking agent (b) having at least

two functional groups capable of covalently binding to a carboxylic group

or

polymerizing, via aqueous solution polymerization, an acrylic acid as a main monomer of the resulting polymer with a crosslinking agent (a) having at least two double bonds capable of copolymerizing with the monomers and partially neutralizing carboxylic groups in the resulting polymer with an alkali metal salt, and further crosslinking carboxylic groups in the resulting hydrogel polymer with a crosslinking agent (b) having at least two functional groups capable of covalently binding to a carboxylic group to provide water absorbing resin particles (A);

blending 100 parts by weight of the water absorbing resin particles (A) and 0,05 to 5 parts by weight of a hydrophilic silicon dioxide fine powder (B) having a specific surface area of 50 to 450 m²/g and a water affinity of not less than 70%; and adjusting the particle size distribution such that the amount of particles having a particle size of larger than 850 µm is not more than 10% by weight and the amount of particles having a particle size of smaller than 150 µm is not more than 10% by weight."

IV. According to the Appellant 1 the introduction in claim 1 of the main request and of the auxiliary request 4 of the term "hydrogel" to define the polymer resulting from the first crosslinking reaction was supported by the application as filed. The requirements of Article 123 (2) EPC were thus met. It was not established whether the fraction 50 to 100 mesh obtained by sieving the absorbent according to example 9 of document (6) still contained silica since

the silica particles had such a small particle size that they could pass through the sieves. In addition, only the specific surface area of the silica used as starting material in example 9 of document (6) was known but not that of the silica in the final absorbent. Since the specific surface was modified by the preparation steps following the addition of silica it could not be established whether the absorbent disclosed in example 9 of document (6) fulfilled the feature of claim 1 of the auxiliary request 1 which required that the silica powder in the claimed absorbent had a specific surface area of 50 to 450 m²/g. The claimed absorbent compositions were thus novel over example 9 of document (6). In view of the introduction in claim 1 of the auxiliary request 2 of a fresh feature with regard to the particle size distribution, the case should be remitted to the opposition division for further prosecution on the basis of that request. The claimed diaper according to that request was novel over document (6) which did not disclose a fibrous material and the relative amount of absorbent composition required by the claims in suit. Document (12) rather than document (6) represented the closest prior art for the assessment of inventive step since the amended claim was directed to a diaper which was also the subject-matter of document (12) whereas document (6) concerned the absorbent material as such without mentioning the technical problems linked to the use of diapers namely elasticity and absorbency. If document (6) was considered as closest prior art then the technical problem solved by the invention was the provision of a diaper with an improved absorption under load. This problem was solved as shown by examples 12 and 13 in the patent specification by the claimed

diaper which was characterised by a specific particle size distribution and the amount of absorbent composition in relation to the amount of fibrous material. Document (6) taught to use as absorbent the whole absorbent composition of example 9 and not only the fraction 50 to 100 mesh obtained by sieving. Since the whole absorbent composition of example 9 did not have the particle size distribution required by claim 1, the skilled person could not arrive to the claimed diaper merely by combining the teaching of document (6) with that of document (2) which only disclosed the amount of absorbent material and fibrous material. In any case, since the diaper disclosed in document (2) was described as having already effective absorbency properties, the skilled person had no reason to replace in that diaper the absorbent material by the absorbent material of document (6). Therefore, the claimed diaper was not obvious from the combined teaching of documents (6) and (2) and involved an inventive step. Claim 1 of the auxiliary request 3 was filed only at the oral proceedings before the Board but had to be admitted into the proceedings since the amendments carried out therein were clearly admissible and since the claim defined a subject-matter which was novel and inventive.

- V. According to the Appellant 2 and the Respondent (Opponent 1) the introduction in claim 1 of the main request and of the auxiliary request 4 of the term "hydrogel" to define the polymer resulting from the first crosslinking reaction was not supported by the application as filed and contravened the requirements of Article 123 (2) EPC. The fraction 50 to 100 mesh obtained by sieving the absorbent material according to example 9 of document (6) fulfilled all the

characteristics required for the absorbent composition defined in claim 1 of the auxiliary request 1. The subject-matter of that claim was thus not novel. The claims of the auxiliary request 2 concerned a disposable diaper. Disposable diapers were already the subject-matter of the claims of the auxiliary request 2 pending in front of the opposition division which considered them as lacking inventive step. There was consequently no reason to remit the case on the basis of this request to the opposition division for the assessment of inventive step as required by the Appellant 1. The claimed diapers were not novel since document (6) disclosed the absorbent composition required for the claimed diaper and implicitly also that diapers contained fibrous material in the amounts specified in the claim. For the assessment of inventive step document (6) represented the closest prior art. The problem solved by the invention was solely the provision of alternative diapers. The claimed solution to that problem, namely the diapers characterised in that they contained fibrous material in a given amount, was obvious in view of the teaching of document (2) which disclosed already that diapers contained 2 to 50% by weight of absorbent material and 50 to 98% by weight of fibrous material. Therefore, the subject-matter of claim 1 of the auxiliary request 2 lacked inventive step. The auxiliary request 3 was filed late and should not be admitted into the proceedings since it did not define a subject-matter which was clearly allowable.

VI. The Appellant 1 requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request, or subsidiarily, on the basis of the first auxiliary request, the second

auxiliary request (filed as auxiliary request 5), the third auxiliary request as filed during the oral proceedings before the Board, or the fourth auxiliary request (filed as auxiliary request 9), all requests apart from the third auxiliary request as filed with letter dated 14 January 2008.

The Appellant 2 requested that the decision under appeal be set aside and that the patent be revoked. The Respondent supported the requests of the Appellant 2.

VII. At the end of the oral proceedings the decision of the Board was announced.

Reasons for the Decision

1. The appeals are admissible.

Main request and auxiliary request 4

2. *Amendments*

2.1 Claim 1 of the main request and of the auxiliary request 4 comprise the substantial amendment requiring that the polymer resulting from polymerizing a monomer mixture of the acrylic acid and the acrylic acid salt with the crosslinking agent (a) or the polymer resulting from polymerizing the acrylic acid with the crosslinking agent (a) is a "hydrogel" polymer.

According to the Appellant 1 this amendment was based on page 15, lines 5, 6, 12 and 13 of the application as filed. However, according to page 15, lines 5 and 6 a

hydrogel polymer is used as starting material in a method comprising adding/kneading a crosslinking agent (b). This passage defines the starting material used with the crosslinking agent (b) but does, however, not disclose that the polymer resulting from a polymerisation with a crosslinking agent (a) is a hydrogel polymer as required now by the amended claim 1. Thus, the amendment to claim 1 cannot be based on this passage of the application as filed. The passage on page 5, lines 12 and 13 discloses that the hydrogel polymer resulting from the polymerisation is, *inter alia*, dried and pulverized. Thus, this passage only discloses a hydrogel polymer in combination with particular operation steps in the preparation of the absorbent composition, in particular drying and pulverizing that are not required by the amended claim 1. That a hydrogel polymer can be processed in a preparation method not including such particular steps, as now encompassed by the amended claim 1, however, adds subject-matter not disclosed in this passage of the application as filed.

2.2 Thus, the application as filed fails to provide a support for the amendment to claim 1 of the main request and the auxiliary request 4 requiring that the polymer resulting from polymerizing with the crosslinking agent (a) is a "hydrogel" polymer. Hence, the amendment to those claims 1 represents subject-matter which is not clearly and unambiguously derivable from the content of the application as filed, contrary to the requirements of Article 123(2) EPC.

2.3 Consequently, the main request and the auxiliary request 4 must be refused.

Auxiliary request 1

3. *Amendments*

Claim 1 of auxiliary request 1 has been amended by specifying the particle size distribution as disclosed in claim 8 as filed. This amendment which also restricts the scope of protection conferred by the patent as granted fulfils, therefore, the requirements of Article 123 (2) and (3) EPC. This was not contested by the Appellant 2 and the Respondent.

4. *Novelty*

4.1 According to the Appellant 2 and the Respondent the claimed absorbent composition was not novel with regard to the absorbent disclosed in example 9 of document (6).

Example 9 of document (6) discloses a powdery absorbent composition comprising 100 parts by weight of water absorbing resin particles "A-1" and 1 part by weight of a silicon dioxide fine powder "Aerosil 200" said silica having, as acknowledged by all parties, a specific surface area within the range of 50 to 450 m²/g and a water affinity of not less than 70 % (page 10, lines 55 to 60). The resin particles "A-1" are prepared by polymerisation of acrylic acid and sodium acrylate, as main monomers of the resulting polymer, with trimethylol propane triacrylate, which is a crosslinking agent having at least two double bonds capable of copolymerizing with the acrylate acid and salt monomers (example 1, page 8, lines 15 to 28). The obtained polymer is then reacted with a second

crosslinking agent having at least two functional groups capable of covalently binding to a carboxylic group, namely glycerol (page 8, lines 29 to 36). The resin has thus the chemical structure required by claim 1 in suit. This was not contested by the Appellant 1. 30 g of the composition obtained in example 9 by mixing the resin particles with silica is sieved through a device formed by superposing 20-mesh, 50-mesh and a 100-mesh sieves (page 9, lines 44 to 47). 28% of that composition, which represents 8,4 g, constitute the 50 to 100 mesh fraction which includes only particles having a particle diameter between 150 μm (100 mesh) and 300 μm (50 mesh) (page 14, table 3, example 9). This fraction presents, consequently, a particle size distribution such that the amount of particles having a particle diameter of larger than 710 μm is not more than 5% by weight and the amount of particles having a particle diameter of smaller than 150 μm is not more than 5% by weight, as required by claim 1 in suit. In addition, since the prepared product is an aggregate powder which incorporates silica (page 11, line 2 and page 7, lines 41 and 42), the fraction obtained by sieving inevitably includes the small amount of silica of at least 0,05 parts by weight required by claim 1 in suit, even if a fraction of the silica introduced in the composition of example 9 would pass through the sieves. This is confirmed by the photos filed by the Appellant 1 with the letter dated 18 June 2007 which show that silica adheres to the resin particles.

Therefore, the fraction 50-100 mesh obtained by sieving the composition of example 9 of document (6) presents all the features required for the composition as

defined in claim 1 of the auxiliary request 1. Thus, the claimed absorbent composition is not novel (Article 54 EPC).

4.2 According to the Appellant 1 only the specific surface area of the silica used as starting material in example 9 of document (6) was known but not that of the silica in the final absorbent. Since the specific surface could be modified by the preparation steps following the addition of silica it could not be established whether the absorbent disclosed in example 9 of document (6) fulfilled the feature of claim 1 which required that the silica in the claimed absorbent is a powder having a specific surface area of 50 to 450 m²/g. The claimed absorbent compositions were thus novel.

However, claim 1 defines a composition comprising two ingredients namely silicon dioxide fine powder and resin particles. Such compositions are defined by the nature of their ingredients, i.e. by the technical characteristics and properties of the compounds which are blended or mixed in order to prepare the compositions. This is confirmed by the patent specification, which in the same way as document (6), defines only the characteristics and properties of the silica used as starting material (see patent specification page 6, lines 7 to 13, examples 1 to 10 on page 11, examples 11 to 14 on page 12; document (6), page 7, lines 41 to 47, example 9, page 10, lines 56 and 57). In addition, it has been shown by the photos filed by the Appellant 1 with the letter dated 18 June 2007 that silica adheres to the resin particles so that the silica is not a separate powder in the claimed

absorbent anymore, although it is defined as being a fine powder in claim 1. It can be concluded therefrom that claim 1 defines, as does document (6), the properties and characteristics of the silica when used as starting compound before blending and not those of the silica as present in the prepared absorbent. The argument of the Appellant 1 must thus be rejected.

- 4.3 Therefore, the Board concludes that the compositions according to claim 1 are not novel with regard to the disclosure of document (6).

Auxiliary request 2

5. *Request for remittal*

The Appellant 1 requested that the case be remitted to the first instance for further prosecution on the basis of the claims of the auxiliary request 2 since they defined a diaper which was characterised by a restricted particle size distribution.

The EPC does not foresee a right for a party to have a particular issue to be decided by two instances since according to Article 111 (1) EPC the Board may either exercise any power within the competence of the department which was responsible for the decision appealed or remit the case to that department for further prosecution.

In the present case, the auxiliary request 2 pending in front of the opposition division related already to diapers which were also defined by a specific particle size distribution. This request was rejected by the

opposition division since the claimed diapers lacked inventive step. In order to overcome that finding the Appellant 1 restricted the particle size distribution. However, this modification does not change the case in such a manner that the assessment of novelty and inventive step gives rise to fresh issues not yet addressed in the opposition proceedings. Under these circumstances, the Board exercising its discretion under Article 111 (1) EPC, finds it appropriate to decide on this request as to the substance and not to remit the case to the first instance.

6. *Amendments*

Claim 1 of auxiliary request 2 results from the combination of claims 1, 2, 12 and 14 as filed. This amendment which also restricts the scope of protection conferred by the patent as granted fulfils, therefore, the requirements of Article 123 (2) and (3) EPC. This was not contested by the Appellant 2 and the Respondent.

7. *Novelty*

According to the Appellant 2 and the Respondent the claimed diaper was not novel since it was implicit to the skilled person that the diaper disclosed in document (6) comprised fibrous material and the absorbent required by claim 1 in-suit in the amount of 30 to 70% by weight.

It is not contested by any party that document (6) discloses diapers only in general terms without specifying any amount of the absorbent material in relation to the total weight of fibrous material and

absorbent. Thus, even if the skilled person implicitly derived from document (6) that the absorbent should be present in the diaper, it is not directly and unambiguously disclosed in said document that this amount is inevitably within the particular range claimed of 30 to 70%. For this reason, the claimed diaper is novel with regard to the disclosure of document (6).

8. *Inventive step*

- 8.1 The patent in suit is directed to a disposable diaper comprising a particular absorbent composition containing a resin prepared by a double crosslinking. Disposable diapers containing the same absorbent composition already belong to the state of the art as illustrated by document (6) which was considered by the Appellant 2 and the Respondent as representing the closest prior art document for the assessment of inventive step.

The Appellant 1 considered that document (12) represented the closest prior art since it addressed as the patent in suit the absorbency and the mechanical strength of diapers. However, although document (6) may not refer *expressis verbis* to the problems of absorbency and mechanical strength, it nevertheless relates to absorbent compositions and disposable diapers and thus, inherently also concerns the problems of absorbency and mechanical strength which are obviously essential characteristics in the field of diapers. In addition it is conceded by the Appellant 1 that document (12) does not disclose an absorbent composition containing a resin resulting from two

crosslinking reactions but from a single one. Since the particular crosslinked structure of the absorbent composition is an essential characteristic of the claimed diaper, document (12) cannot be closer to the invention than document (6) which discloses the specific absorbent material comprised in the claimed diaper (see point 4 *supra*).

The Board considers therefore that document (6) represents the closest prior art and starting point in the assessment of inventive step.

8.2 Document (6) discloses an absorbent composition that fulfils all the requirements of the absorbent defined in claim 1 in suit (example 9, see point 4 *supra*). The absorbent compositions described in document (6) are utilized in disposable diapers (page 15, line 19).

8.3 Having regard to this prior art, the Appellant 1 submitted that the technical problem underlying the patent in suit was to provide a disposable diaper with an improved absorption under load.

8.4 As the solution to this problem the patent in suit proposes the disposable diaper according to claim 1, which is characterized by the fact that it comprises "a fibrous material, wherein the amount of said absorbent composition for the disposable diaper is 30 to 70% by weight based on the total weight of said fibrous material and said composition".

The Appellant 1 considered that the particle size distribution required by claim 1 was also a feature characterizing the solution to the technical problem

underlying the invention since the whole absorbent composition of example 9 of document (6) was utilized in a disposable diaper and not only the fraction 50-100 mesh obtained by sieving the composition of example 9, said fraction presenting all the characteristics of the absorbent required by claim 1 in suit only when isolated from the other fractions of example 9.

However, claim 1 in suit only requires, due to the open definition "comprising", that a portion comprised in the absorbent composition fulfils all the characteristics indicated in the claim and thereby does not exclude that the composition also comprises other portions which do not present these characteristics. Since the absorbent composition disclosed in example 9 of document (6) comprises a fraction presenting all the characteristics required by claim 1, namely the fraction of 50-100 mesh (see point 4.1 *supra*), that composition as a whole is covered by claim 1 in suit. Consequently, the particle size distribution does not distinguish the claimed diaper from that disclosed in document (6) and thus cannot characterise the solution proposed by the patent in suit to the technical problem defined by the Appellant 1.

8.5 The Appellant 1, on one side, and the Appellant 2 and the Respondent, on the other side, were divided as to whether or not the evidence presented, namely examples 12 and 13 in table 1 of the patent specification, convincingly showed that the technical problem defined herein above was successfully solved by the claimed diaper.

8.5.1 According to the established case law of the Boards of Appeal, for a comparative test to demonstrate an inventive step based on an improved effect over a claimed area, the nature of the comparison with the closest state of the art must be such that the effect is convincingly shown to have its origin in the distinguishing feature of the invention (see T 197/86, point 6.1.3, OJ EPO, 1989, 371).

However, examples 12 and 13 of the patent specification do not relate to diapers and concern only the performance of two absorbent compositions differing by their particle size distribution (production examples 8 and 9). In these examples no fibrous material is used. However, since the claimed diapers differ from that of the closest prior art only by the fact that they comprise a fibrous material in a particular amount, the comparison on which the Appellant 1 relies cannot show that the alleged improved absorption under load has its origin in the distinguishing feature of the invention. Already for this reason the sole comparison on which relies the Appellant 1 cannot support the alleged amelioration.

8.6 According to the jurisprudence of the Boards of Appeal, alleged but unsupported advantages cannot be taken into consideration for the determination of the problem underlying the claimed invention (see e.g. decision T 20/81, OJ EPO 1982, 217, point 3, last sentence). Since in the present case the alleged advantage, i.e. improved absorption under load, lacks the required experimental support, the technical problem as defined above (see point 8.3) needs to be redefined in a less ambitious way, and in view of the teaching of document

(6) can merely be seen in providing an alternative disposable diaper.

8.7 It remains to be decided whether or not the proposed solution, namely the disposable diaper according to claim 1, to that objective technical problem is obvious in view of the state of the art, in other terms, whether it was obvious to the skilled person in view of the prior art to provide alternative disposable diaper to those disclosed in document (6) comprising "a fibrous material, wherein the amount of said absorbent composition for the disposable diaper is 30 to 70% by weight based on the total weight of said fibrous material and said composition".

8.7.1 The skilled person looking for an alternative to the diapers disclosed in document (6) would turn his attention to the teaching of document (2) which, as does the patent in suit, relates to disposable absorbent structures comprising as absorbent a crosslinked polymer material (column 1, lines 20 to 23; claim 24), and from which he explicitly learns that disposable articles such as diapers comprise fibrous materials and 2 to 50% by weight of the total structure of an absorbent composition (claim 24 (a) and (b)), said amount overlapping with the range of 30 to 70% by weight of absorbent specified in claim 1 in suit. Since no effect has been submitted or shown to be linked to the overlapping range specified in claim 1 in suit, this amount of absorbent can only be seen as an arbitrary choice within the amount of absorbent recommended by document (2).

8.7.2 The Board concludes from the above that document (2) gives a clear incentive on how to solve the technical problem underlying the patent in suit of providing an alternative disposable diaper, namely by incorporating in the diapers a fibrous material wherein the amount of said absorbent composition for the disposable diaper is up to 50% by weight based on the total weight of said fibrous material and said composition, i.e. within the claimed range of 30 to 70%, thereby arriving at the solution proposed by the patent in suit.

For these reasons, the subject-matter of claim 1 lacks the required inventive step.

8.7.3 The Appellant 1 argued in support of inventive step that, since document (2) concerned already disposable absorbent articles comprising particular absorbent particles and having good properties, there was no motivation and even a deterrent for the skilled person to modify the article described in that document by replacing the absorbent composition thereof by the absorbent disclosed in document (6).

The Appellant 1's argumentation is based on considering document (2) as closest prior art and starting point in the assessment of inventive step. However, the skilled person starting from the closest prior art which is rather represented by document (6) and not document (2) (see points 8.1 and 8.2 *supra*) will not be faced with any deterrent preventing him from adding to the diapers known from document (6) fibrous material, which is a material widely used in the field of diapers in an arbitrary amount taught in document (2). The argument

of the Appellant 1 starting from document (2) as closest prior art must thus be rejected.

- 8.8 To summarize, the disposable diaper according to claim 1 does not involve an inventive step. Therefore, the auxiliary request 2 must be refused.

Auxiliary request 3

9. *Admissibility*

The third auxiliary request was filed just before closing the debate at the oral proceedings before the Board. According to the Rules of Procedure of the Boards of Appeal (RPBA) published in the OJ EPO 2007, 536, any amendment to a party's case after it has filed its grounds of appeal may be admitted and considered at the Board's discretion and is not a matter as of right (Article 13 (1) RPBA). For exercising due discretion in respect of the admission of such a late filed request, it is established case law of the Boards of Appeal that one crucial criterion is whether or not the amended claims of this request are clearly allowable without giving possibly rise to any fresh issue (see for example T 153/85 OJ EPO 1988, 1, points 2.1 and 2.2 of the reasons for the decision).

Claim 1 of the third auxiliary request is directed to a process for producing the absorbent composition known from document (6) (see point 4 *supra*) by process steps which are also known from the same document, namely "polymerizing via aqueous solution polymerization" (see document (6), page 8, lines 17 to 28), "reacting carboxylic groups in the resulting polymer with a

crosslinking agent (b)" (document (6), page 8, lines 33 to 35), "blending" the resin with silicon dioxide (document (6), page 10, lines 56 to 57) and "adjusting the particle size distribution" (document (6), page 9, lines 44 to 47).

Hence, the subject-matter of the amended claim 1 relates to a process for preparing a known composition by known process steps. It is therefore highly questionable whether the amendments carried out are appropriate to overcome the novelty objection raised by the Appellant 2 and the Respondent, let alone the objections of inventive step. For these reasons, the amended claim 1 of the third auxiliary request is not clearly allowable.

Thus, in view of the state of the proceedings at which the request was filed, i.e. just before closing the debate at the end of the oral proceedings before the Board, the third auxiliary request is not admitted into the proceedings for reasons of procedural economy (Article 13 (1) RPBA).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

C. Rodríguez Rodríguez

R. Freimuth