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**Datasheet for the decision  
of 7 May 2009**

**Case Number:** T 1236/07 - 3.2.06

**Application Number:** 01908536.4

**Publication Number:** 1267784

**IPC:** A61F 13/475

**Language of the proceedings:** EN

**Title of invention:**

Absorbent article with improved leakage protection

**Patentee:**

SCA Hygiene Products AB

**Opponent:**

KIMBERLY-CLARK WORLDWIDE, INC.

**Headword:**

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**Relevant legal provisions:**

-

**Relevant legal provisions (EPC 1973):**

EPC Art. 56

**Keyword:**

"Inventive step (no)"

**Decisions cited:**

-

**Catchword:**

-



Case Number: T 1236/07 - 3.2.06

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.06  
of 7 May 2009

**Appellant:** SCA Hygiene Products AB  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 1 June 2007  
revoking European patent No. 1267784 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** K. Garnett  
**Members:** G. Pricolo  
M. Harrison

## Summary of Facts and Submissions

I. The appeal is from the decision of the Opposition Division posted on 1 June 2007 revoking European patent No. 1 267 784, granted in respect of European patent application No. 01 908 536.4.

II. Claim 1 of the patent as granted reads as follows:

"1. Absorbent article for taking up body fluids, with a longitudinal direction, a transverse direction, a crotch portion (8) and two end portions (6,7), and having side edges (9,10) extending in the longitudinal direction and end edges (11,12) extending in the transverse direction, and comprising a liquid-permeable cover sheet (2) and a liquid-tight cover sheet (3), and an absorbent body (4) arranged between the cover sheets (2,3), and further comprising barriers which are arranged along the side edges (9,10) of the article and which are raised up from the liquid-permeable cover sheet (2), characterized in that the liquid-permeable cover sheet (2) has a central zone (30) which is arranged essentially in the crotch portion (8) of the article, and two end zones (31,32) which are arranged at the end portions (6,7) of the article, the liquid-permeable cover sheet (2) being more hydrophilic in the central zone (30) than in the end zones (31,32) and wherein the difference in hydrophilicity between the central zone (30) and the end zones (31,32) of the liquid-permeable cover sheet (2) is obtained by the fact that the liquid-permeable cover sheet (2) consists of an essentially hydrophobic material which has been treated to obtain hydrophilicity in the central zone (30), the central zone (30) of the liquid-permeable

cover sheet (2) having an extent in the transverse direction of the article corresponding to 60-100% of the width of the article."

III. The opposition division considered that the subject-matter of claim 1 of the patent as granted did not involve an inventive step having regard to the disclosure of document

D1 : EP-A-670 154,

taken alone or, alternatively, of document D1 taken in combination with document

D2 : GB-A-2 237 205.

IV. The appellant (patent proprietor) filed an appeal, received at the EPO on 30 July 2007, against this decision and paid the appeal fee on the same day. With the statement setting out the grounds of appeal, received at the EPO on 8 October 2007, the appellant filed first and second auxiliary requests for maintenance of the patent in amended form.

V. In a communication accompanying the summons to oral proceedings pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal, the Board expressed doubts in respect of the inventiveness of the subject-matter of claim 1 according to all the requests on file. As regards the subject-matter of claim 1 as granted (main request), the Board expressed the preliminary opinion that the technical problem solved when starting from the closest prior art D1 consisted in finding an appropriate portion of the topsheet length which needed

to be treated with surfactant.

- VI. Oral proceedings, at the end of which the decision of the Board was announced, took place on 7 May 2009.

The appellant requested that the decision under appeal be set aside and that the patent be maintained as granted, or on the basis of auxiliary requests 1 or 2.

As notified beforehand, the duly summoned respondent (opponent) did not attend the oral proceedings. In accordance with Rule 115(2) EPC, the proceedings were continued without the respondent. The respondent requested, in its written submissions, that the appeal be dismissed.

- VII. Claim 1 according to the first auxiliary request is as claim 1 as granted but for the addition after the final feature of the following feature:

"and an extent in the longitudinal direction of the article corresponding to 25-75% of the length of the article".

Claim 1 according to the second auxiliary request further includes, after the latter final feature, the following feature:

"and being arranged slightly offset towards one end portion (306) of the article.".

- VIII. The appellant's arguments, as far as relevant for the present decision, may be summarised as follows:

The Opposition Division considered that D1 disclosed a liquid-permeable topsheet (cover sheet) consisting of an essentially hydrophobic material that had been treated in a zone only to obtain hydrophilicity in said zone. D1 disclosed that a surfactant material could be applied to a medial section of the topsheet, but only in connection with the disclosure relating to Fig. 6. This disclosure was exclusively concerned with the topsheet. Neither Fig. 6 nor the associated description mentioned the other relevant features of claim 1 of the patent in suit, in particular the provision of barriers. The embodiment of a topsheet according to Fig. 6 could not be directly combined with the embodiments of complete absorbent articles illustrated in D1. Furthermore, D1 disclosed in connection with Fig. 6 that topsheet fabrics might be composed of a substantially hydrophobic and substantially nonwetable material, that the hydrophobic material might optionally be treated with a surfactant to impart a desired level of wettability and hydrophilicity, and that the surfactant could be applied to a medial section of the topsheet layer to provide a greater wettability of the medial section. The latter feature implied that also the portion of the hydrophobic topsheet surrounding the medial section was wettable. Therefore, this disclosure could only be read to mean that the whole hydrophobic topsheet layer was treated with a surfactant and that if the medial section was treated with a surfactant material, then this was a treatment in addition to the treatment of the whole topsheet layer. In contrast thereto, in the absorbent article according to claim 1 of the patent in suit only the central zone of the essentially hydrophobic material forming the cover sheet (topsheet) was treated

to obtain hydrophilicity. Therefore, the subject-matter of claim 1 differed from D1 by more features than the sole distinguishing feature identified by the Opposition Division, according to which the liquid permeable cover sheet was more hydrophilic in a central zone arranged essentially in the crotch portion than in the end zones. As a consequence, there were several steps that had to be performed for arriving at the subject-matter of claim 1 when starting from D1. Moreover, there was no indication in D1 suggesting that only the central zone of the essentially hydrophobic material forming the topsheet be treated with surfactant. In fact, a specific teaching of D1 consisted in providing a surge management portion located underneath the topsheet for quickly collecting and temporarily holding liquid surges. Accordingly, the function of the topsheet was to allow liquid to pass into the surge management portion, and therefore there was no reason to provide hydrophobic portions at the end zones of the topsheet. For this reason the person skilled in the art would not seriously contemplate the embodiment disclosed by D1, according to which the medial section could extend along only a predetermined portion of the topsheet length, rather than along the entire length of the topsheet layer. Moreover, treating only a portion of the topsheet length was difficult to put into practice, because topsheets were manufactured in continuous processes running at high speed. Thus, a further reason why the person skilled in the art would not seriously contemplate the above-mentioned embodiment disclosed by D1 was that in the absence of any indications in D1 that said embodiment would provide any advantages, the skilled person would not consider making the manufacturing process more complex.

Accordingly, in order to arrive at the subject-matter of claim 1 of the patent in suit, the skilled person had to take various steps in a direction away from the teaching of D1.

On the assumption that the skilled person would consider treating only a portion of the topsheet length, he would then only treat a relatively small portion thereof corresponding to the preferential area of absorbency suited to the anatomy of a boy or a girl as disclosed by D2, in particular such that possible problems of rewet would be avoided. This preferential area of absorbency extended for less than 25% of the length of the article as clearly shown in the figure of D2. Therefore, this feature, which was present in claim 1 according to the first and second auxiliary requests, was not rendered obvious by the cited prior art.

IX. The arguments presented by the respondent in its written submissions insofar as they are relevant for the present decision may be summarized as follows:

D1 disclosed all of the features of claim 1 of the contested patent as granted, other than that the liquid permeable coversheet had been treated to render it hydrophilic only in a central zone which did not extend to either of the two end regions, which therefore remained relatively hydrophobic. However, D1 disclosed that the medial section of the topsheet was treated with a surfactant to impart it with greater wettability and hydrophilicity than the remainder of the topsheet layer and that the surfactant treated medial section could be constructed to extend along only a

predetermined portion of the topsheet length, rather than substantially the entire length of the topsheet layer as illustrated in the embodiments. The skilled person was therefore taught that in this embodiment the surfactant treated medial section need not extend to both ends of the article. In the light of this teaching, the most obvious implementation of the embodiment was to confine the surfactant treated portion to a longitudinally central region of the article, i.e. including the crotch region, and not to extend the surfactant treated portion to either of the longitudinal ends of the article. This construction was the most obvious for a number of reasons, in particular because, as a matter of routine implementation, the skilled person would provide the surfactant along only that part of the length of the topsheet where it was required. The purpose of the surfactant treatment was to render the treated portion of the topsheet more hydrophilic and wettable, enhancing its receptiveness to incident fluid. The skilled person would understand from his own general knowledge that the surfactant should be confined to the central "target" zone of the article corresponding to the portion which was subject to insults of fluid in use, and that it was not necessary to provide surfactant treatment at the longitudinal ends of the article, as these ends were not subject to fluid insults in use. If he were in any doubt as to the location of the "target" zone of the article, D1 even mentioned that the liquid acquisition or target zone might comprise a region beginning at a line positioned approximately 10% of the absorbent structure length away from the front waistband edge and ending at approximately 60% of the absorbent structure length away from the front waistband edge.

Claim 1 according to the first auxiliary request also lacked an inventive step in view of D1 alone, because D1 disclosed that the target zone might have a length relative to that of the overall article in the claimed range of 25% to 75% of the length of the article.

As regards claim 1 according to the second auxiliary request, it would be a matter of routine implementation for the skilled person to locate the surfactant-treated length of the topsheet such that it was offset from one end of the article when providing the surfactant treatment, such that it was in a region corresponding to the target zone.

## **Reasons for the Decision**

1. The appeal is admissible.
2. *Main request (patent as granted)*
  - 2.1 D1, which undisputedly represents the closest prior art, discloses (using the wording of claim 1 of the patent in suit) an absorbent article (see Figs. 1 to 3) for taking up body fluids, with a longitudinal direction (26), a transverse direction (24), a crotch portion (16) and two end portions (12, 14), and having side edges (20) extending in the longitudinal direction and end edges (22) extending in the transverse direction, and comprising a liquid-permeable cover sheet (topsheet layer 28) and a liquid-tight cover sheet (backsheet layer 30), and an absorbent body (48) arranged between the cover sheets (28, 30), and further comprising

barriers (containment flaps 62, see also Figs. 4 and 5) which are arranged along the side edges (20) of the article and which are raised up from the liquid-permeable cover sheet (28), wherein the liquid-permeable cover sheet (28) has a central zone which is arranged essentially in the crotch portion (16) of the article, and two end zones which are arranged at the end portions (12, 14) of the article.

2.2 Concerning the remaining features of claim 1 disclosed by D1, the Opposition Division referred in particular to Fig. 6 of D1 and its associated description (see page 2 of the decision under appeal). The appellant submitted that the disclosure of D1 relating to the topsheet shown in Fig. 6 could not be directly combined with the disclosure of absorbent articles disclosed in the rest of D1. This argument cannot be accepted. According to D1, Fig. 6 shows "*the topsheet layer employed with the present invention*" (see col. 4, lines 45, 46). Since the invention according to D1 is an absorbent article (see claim 1 and col. 2, lines 32, 33), Fig. 6 clearly and unambiguously shows a topsheet layer for use in the absorbent articles disclosed by D1, including the absorbent articles according to the embodiments described with respect to Figs. 1 to 5. Moreover, the description relating to Fig. 6 explicitly refers to Fig. 5 (see col. 10, line 47) and therefore makes clear that Fig. 6 is representative of a detail (the topsheet) of the disclosed absorbent article (as shown in the cross-sectional view of Fig. 5).

Further, the Board agrees with the Opposition Division's view that the description relating to Fig. 6 discloses that the topsheet (i.e. the liquid-permeable

cover sheet according to the wording of the patent in suit) consists of an essentially hydrophobic material which has been treated to obtain hydrophilicity in a zone. D1 discloses, in a general context (see col. 10, lines 18 to 23), that the topsheet fabrics may be composed of a substantially hydrophobic and substantially nonwetable material and that the hydrophobic material may be optionally treated with a surfactant or otherwise processed to impart a desired level of wettability. Accordingly, the topsheet's substantially hydrophobic material may be untreated, surfactant treated, or otherwise processed. In a passage referring to Fig. 6 (see col. 10, lines 34 to 41), D1 further discloses that surfactant material can be applied to a medial section of the topsheet layer to provide a greater wettability of the medial section, as compared to a remainder of the topsheet layer. In the Board's view, the disclosure of this passage cannot be read in the restrictive manner argued for by the appellant, such as to refer only to the case in which the topsheet's hydrophobic material is treated also in areas outside the medial section with a surfactant. Even though it is stated in this passage that the medial section should have a *"greater wettability"* as compared to a remainder of the topsheet layer, D1 discloses (see col. 10, lines 19, 20) that the untreated topsheet fabric is *"substantially"* hydrophobic and *"substantially"* nonwetable. Thus, also the untreated topsheet fabric clearly has a certain wettability. Therefore, the disclosure in the above-mentioned passage also clearly applies to the case in which the hydrophobic material of the topsheet has not been treated and, as a consequence, D1 discloses a topsheet consisting of an essentially hydrophobic

material which has been treated in a medial section only.

In any case, claim 1 of the patent in suit does not exclude that the whole liquid-permeable cover sheet (i.e. the topsheet) is treated with a surfactant, the central zone then receiving an additional treatment with a surfactant. It is true that claim 1 recites that the liquid-permeable cover sheet consists of an essentially hydrophobic material which has been treated to obtain hydrophilicity in the central zone. Claim 1 however also recites that the liquid-permeable cover sheet is more hydrophilic in the central zone than in the end zones. Thus claim 1 also includes the possibility that the whole topsheet is treated to obtain a certain degree of hydrophilicity and the central zone is additionally treated to obtain a greater degree of hydrophilicity. This interpretation is in line with the disclosure in the description of the patent in suit, according to which (see par. [0044]) *"within the central zone [...] the liquid-permeable cover sheet has a greater hydrophilicity than parts surrounding the liquid-permeable cover sheet"* and (see par. [0045]) *"the central zone is surrounded by the more hydrophobic end zones"*. This disclosure in fact suggests that according to the patent in suit what counts is the difference in hydrophilicity (or hydrophobicity) between the central zones and the end zones, and that whether the end zones are untreated or not is irrelevant.

It follows from the above that D1 clearly and unambiguously discloses the features of claim 1 according to which the liquid-permeable cover sheet is

more hydrophilic in a zone (the medial section 104, see col. 10, lines 34 to 39), and the difference in hydrophilicity between this zone and the other zones of the liquid-permeable cover sheet results from the fact that the liquid-permeable cover sheet consists of an essentially hydrophobic material which has been treated to obtain hydrophilicity in said zone. Further according to D1, said zone (the medial section) can have a width equal to or less than the spacing between the pair of adhesive strips (120) employed at the topsheet securement sections 118 (see col. 10, line 40 to col. 11, line 11). The adhesive strips being located near the edges of the article, at least in a central zone thereof, D1 also clearly discloses that the zone of the topsheet with higher hydrophilicity can have an extent in the transverse direction within the range mentioned in claim 1 of the patent in suit of 60-100% of the width of the article.

D1 further discloses that the medial section can extend "*along substantially the entire length of the topsheet layer*" or, alternatively "*along only a predetermined portion of the topsheet length*" (see col. 11, lines 14 to 20). However, there is no disclosure of the medial section being located in a central zone.

Therefore, the subject-matter of claim 1 differs from the absorbent article according to D1 only in that it is in the central zone that the liquid-permeable cover sheet is more hydrophilic (as compared to the end zones).

- 2.3 In its written submissions, the appellant argued that, since D1 was completely silent concerning any effect of

the feature according to which the medial section could extend along only a predetermined portion of the topsheet length, this feature was essentially devoid of any significance for the skilled person, who would regard it as a traditional way of trying to widen the scope of protection of a patent. As a consequence, the skilled person would not in practice focus on the length of the medial section. However, in the Board's view, as discussed during the oral proceedings, the skilled person would not regard the disclosure relating to this feature as a mere formal disclosure, at least because it is immediately apparent that the embodiment incorporating this feature is advantageous over the embodiment in which the medial section extends along the entire length of the topsheet, because it requires a reduced amount of surfactant. Therefore, the skilled person would consider this embodiment as a starting point in practice. However, since the disclosure of D1 concerning the location of a medial section extending along only a predetermined portion of the topsheet length is generic, the skilled person would need to find an appropriate location for the medial section in order to put this embodiment into practice.

Accordingly, an effect provided by the feature that the medial section is in a central zone arranged essentially in the crotch region in the absorbent article according to this generic disclosure of D1, i.e. an effect of providing the above-mentioned distinguishing feature, is to locate the medial section along an appropriate portion of the topsheet's length. Therefore, one technical problem solved when starting from this embodiment is finding an appropriate portion of the topsheet's length for the location of the medial

portion (i.e. the portion which needs to be treated with surfactant).

It is noted that it might well be that the provision of the distinguishing feature has other technical effects, such as improving leakage protection as argued by the appellant. However, the skilled person seeking to put into practice the generic teaching according to the above-mentioned embodiment of D1 is in any case necessarily confronted with the problem of finding a specific location for the medial portion. In the present case, as explained below, the skilled person would directly arrive at an absorbent article falling within the definition of claim 1 of the patent in suit when dealing with this unavoidable problem. As a consequence, other possible technical effects would merely be additional "bonus effects" following from an obvious design choice.

- 2.4 The purpose of the surfactant treatment in D1 is to render the treated portion of the topsheet more hydrophilic and wettable (see col. 10, lines 22, 23), as also acknowledged by the appellant during the oral proceedings before the Board, to enhance its receptiveness to incident fluid. Accordingly, the skilled person would understand that the surfactant should be confined to the target zone of the topsheet corresponding to the portion which is subject to insults of fluid in use. The skilled person is well aware as part of his common general knowledge that the target zone of an absorbent article is located in a central portion of the absorbent article. Moreover, D1 specifically mentions (see col. 16, lines 17 to 22) that the *"target zone may preferably comprise a region*

*which begins at a line positioned approximately 10% of the absorbent structure length away from the front waistband edge and ends approximately 60% of the absorbent structure length away from the front waistband edge".* Therefore, the skilled person would select the surfactant treated "*predetermined portion*" (see col. 11, lines 18 to 20 of D1) of the topsheet length to include only the central portion and not the longitudinal ends of the topsheet, as these ends are not subject to fluid insults in use. In doing this the skilled person would obtain an absorbent article having a liquid-permeable cover (topsheet) which is more hydrophilic in the central zone than in the end zones, i.e. he would arrive at an absorbent article falling within the definition of claim 1 of the patent in suit in an obvious manner.

2.5 In view of the above considerations the subject-matter of claim 1 as granted is obvious to the skilled person and therefore lacks an inventive step (Article 100(a) and 56 EPC).

### 3. *Auxiliary requests*

3.1 As compared to claim 1 as granted, claim 1 according to the first auxiliary request includes the additional feature of granted claim 9, according to which the central zone of the liquid-permeable cover sheet has an extent in the longitudinal direction of the article corresponding to 25-75% of the length of the article.

This feature does not support the presence of an inventive step (Article 56 EPC) in view of the above-mentioned disclosure of D1 that the target zone may

preferably comprise a region which begins at a line positioned approximately 10% of the absorbent structure length away from the front waistband edge and ends approximately 60% of the absorbent structure length away from the front waistband edge. This means that according to D1 the target zone preferably has an extent corresponding to about 50% of the length of the article. Since, as explained above under point 2.4, the skilled person would obviously select the surfactant-treated portion of the topsheet length to correspond to the target zone, and according to D1 the target zone has preferably an extent corresponding to about 50% of the length of the article, the skilled person would obviously select a length of the central zone corresponding to 50% of the length of the article. In doing this, the skilled person would arrive in an obvious manner at an absorbent article in which the central zone of the liquid-permeable cover sheet has an extent in the longitudinal direction of the article within the range of 25-75% of the length of the article mentioned in claim 1 according to the first auxiliary request.

- 3.2 The appellant essentially argued in support of the first auxiliary request that if the skilled person would consider treating only a portion of the topsheet length, then he would treat a relatively small portion thereof corresponding to the preferential area of absorbency suited to the anatomy of a boy or a girl as disclosed by D2. However, D1 (see col. 16, lines 1 to 22) also takes account of the gender of the wearer when generally stating that the preferential area of absorbency begins at a line positioned approximately 10% of the absorbent structure length away from the

front waistband edge and ends approximately 60% of the absorbent structure length away from the front waistband edge. Moreover, there is no clear and unambiguous disclosure in D2 of a target zone being restricted to less than 25% of the absorbent structure length. Fig. 2 of D2, referred to by the appellant, schematically shows two rectangles (7) corresponding to gender specific target areas (see page 4, penultimate paragraph). However, no effective dimensions of the target areas can be inferred from the schematic illustration of Fig. 2. The Board is furthermore not aware of any prior art which would indicate that gender specific target areas generally extend over a relatively small length which is in any case less than 25% of the length of the article.

- 3.3 Claim 1 according to the second auxiliary request further includes the additional feature of granted claim 8 according to which the central zone of the liquid-permeable cover sheet is arranged to be slightly offset towards one end portion of the article. Also this additional feature does not support the presence of an inventive step (Article 56 EPC). As explained above, the skilled person would obviously select the surfactant treated portion of the topsheet length to correspond to the preferred target zone according to D1. This preferred target zone begins at a line positioned approximately 10% of the absorbent structure length away from the front waistband edge and ends approximately 60% of the absorbent structure length away from the front waistband edge and is therefore offset towards one end portion of the article. Since the term "slightly" does not define any clear limitation for the amount of the offset, the target

zone in accordance with D1 can be regarded as being "slightly offset" towards the front end portion of the article.

3.4 Therefore, the decision of the Opposition Division to revoke the patent for lack of inventive step is hereby confirmed.

### **Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

M. Patin

K. Garnett