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**Datasheet for the decision
of 20 April 2007**

Case Number: T 0001/05 - 3.3.03

Application Number: 97911739.7

Publication Number: 0935616

IPC: C08F 6/00

Language of the proceedings: EN

Title of invention:

Adhesives with low level of residual monomers and process for manufacturing same

Patentee:

National Starch and Chemical Investment Holding Corporation
and LTS LOHMANN Therapie-Systeme GmbH

Opponent:

BASF Aktiengesellschaft, Ludwigshafen

Relevant legal provisions:

EPC Art. 54, 123(2)
EPC R. 57a
RPBA Art. 10b(1)

Keyword:

"Main request - amendments - added subject-matter - (yes)"
"First auxiliary request - reformatio in peius - exception
G 0001/99 - (yes)"
"First auxiliary request - novelty (no)"
"Second auxiliary request - amendments occasioned by grounds
of opposition (no)"
"Third auxiliary request - maintenance in amended form -
(yes)"

Decisions cited:

G 0001/92, G 0001/99

Catchword:

-



Case Number: T 0001/05 - 3.3.03

D E C I S I O N
of the Technical Board of Appeal 3.3.03
of 20 April 2007

Appellant: BASF Aktiengesellschaft, Ludwigshafen
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office dated
6 October 2004 and posted 10 November 2004
concerning maintenance of European Patent
No. 0935616 in amended form.

Composition of the Board:

Chairman: R. Young
Members: M. C. Gordon
E. Dufrasne

Summary of Facts and Submissions

I. Mention of the grant of European Patent No. 0 935 616
in the names of:

- National Starch and Chemical Investment Holding Corporation and
- LTS LOHMANN Therapie-Systeme GmbH

in respect of European patent application No. 97911739.7 filed on 14 October 1997 as international application No. PCT/US97/18622, published as WO 98/18829 on 7 May 1998 and claiming priorities of DE 19643959 dated 31 October 1996 and US 928 313 dated 12 September 1997, was announced on 24 July 2002 (Bulletin 2002/30) on the basis of 24 claims.

Independent claim 1 read as follows:

"1. A pressure-sensitive adhesive comprising one or more olefinic polymers wherein the content of free monomers is less than 0.3% by weight."

Dependent claims 2-10 were directed to preferred embodiments of the adhesive of claim 1.

Claim 11 was an independent process claim and read as follows:

"11. A process for the manufacture of an adhesive comprising one or more olefinic polymers wherein the content of free monomers is less than 1% by weight, the process comprising after completion of polymerization or copolymerization of the polymer or polymers, the

hydrogenation of the adhesive in an organic solvent in the presence of a heterogeneous or homogeneous catalyst."

Dependent claims 12-20 defined preferred embodiments of the process of claim 11.

Claims 21 and 22 were directed to a "transdermal therapeutic system" and a "medicinal or veterinary medicinal plaster", respectively, defined as "comprising an adhesive in accordance with claim 1".

Claims 23 and 24 were directed to the "Use of an adhesive in accordance with claim 1" in the area of cosmetics, in the foods sector or in medicinal or veterinary medicinal plasters (claim 23) or in transdermal systems (claim 24), respectively.

II. An opposition against the grant of the patent was filed on 27 February 2003 by BASF AG, on the grounds of Article 100(a) EPC, specifically that the subject matter claimed in the patent was neither novel (Article 54 EPC), nor founded on an inventive step (Article 56 EPC).

The opponent relied, *inter alia*, on the following documents:

D1: EP-A-655 465

D2: WO-A-95/33775

D5: JP-A-0 519 49 26

D6: JP-A-0 206 09 81.

D5 and D6 were cited in the form of English language abstracts.

III. In a decision announced orally on 6 October 2004 and issued in writing on 10 November 2004 the opposition division held that the patent could be maintained in amended form on the basis of the main request, filed with a letter dated 3 June 2004 and consisting of 23 claims.

Independent claim 1 of this request read as follows:

"1. A solution of a pressure sensitive adhesive in an organic solvent characterized in that the pressure sensitive adhesive comprises one or more olefinic polymers wherein the content of free monomers is less than 0.3% by weight."

Claims 2-7 and 10 had been amended, compared to the patent as granted to be directed to "a solution" as opposed to "an adhesive" but otherwise corresponded to claims 2-7 and 10 as granted.

Claims 8 and 9 apart from being amended as noted for claims 2-7 and 10 so that they were directed to a solution had been further modified compared to the granted versions. Claims 8 and 9 as granted specified the permissible monomers, one of which was "acrylic acid". The amended version of these claims however introduced an indefinite article, and hence defined "**an** acrylic acid".

Independent process claim 11 and the dependent process claims 12-20 were identical to the corresponding claims 11-20 of the patent as granted.

Claims 21, 22 and 23 read as follows:

"21. A transdermal therapeutic system comprising a pressure-sensitive adhesive comprising one or more olefinic polymers wherein the content of free monomers is less than 0.3% by weight.

22. Use of a solution in accordance with claim 1 in the area of cosmetics, in the foods sector, or in medicinal or veterinary medicinal plasters.

23. Use of a solution in accordance with claim 1 in transdermal systems."

According to the decision: (nb the *emphasis* indicated below is that of the decision)

- (a) Under the heading "Article 100(c) EPC" it was held that the basis for the feature "*A solution...in an organic solvent characterised in the...*" introduced into claim 1 and the feature "*...a solution...*" introduced into claims 22 and 23 was to be found in paragraph [0026] as well as the examples of the patent.

Claim 21 was held to be based on granted claim 21 in conjunction with granted claim 1.

- (b) Novelty was recognised with respect to the disclosures of D1 and D5.

- (c) With regard to inventive step it was held that the objective problem to be solved was to provide a material having low monomer content suitable for the medical and cosmetic fields.

Neither D1 nor D5 alone or in combination with other available prior art documents hinted or suggested "*A solution of a pressure sensitive adhesive...*" as being suitable for the medical and cosmetic fields.

- (d) Accordingly it was held that the patent could be maintained in amended form on the basis of the main request.

- IV. A notice of appeal was filed by the opponent on 18 December 2004, the prescribed fee being paid on the same day.

Revocation of the patent in its entirety was requested. As an auxiliary measure, oral proceedings were requested.

- V. The statement of grounds of appeal was filed on 3 February 2005.

It was stated that the appeal was principally based on the grounds of lack of novelty and lack of inventive step with respect to the disclosures of D1 and D5. As appropriate, the other documents from the opposition procedure were to be considered.

Additionally two further documents

D12: "Handbook of Pressure Sensitive Adhesive Technology", D. Satas (ed), 1989, pp. 396-399; and

D13: US-A-4 737 577

were cited for the first time.

It was submitted that D12 disclosed that polyacrylates of a particular monomer composition (C₄-C₁₇ alkyl (meth)acrylates) were inherently pressure sensitive adhesives; additional components were not required.

(a) Novelty was denied with respect to the disclosures of D1, D5 and D13.

(b) Inventive step was denied with respect to the disclosures of D1 and D5.

(c) The appellant further submitted that the opposition was principally directed against the product claims. In the case that the proprietor would restrict itself to the subject matter of the originally granted process claim 11 it was intended to withdraw the request for oral proceedings (cf section IV above).

VI. In a rejoinder received 19 October 2005 the proprietor, now the respondent, requested that the appeal be dismissed and the patent be maintained on the basis of the claims accepted in the decision under appeal (main request). An amended set of 23 claims was submitted as an auxiliary request.

The claims of the auxiliary request differed from the claims of the main request only by specifying in claim 1 that the polymer solids content of the solution was from 10% to 51.5%.

The following documents were submitted:

D5a: An English translation of the full text of JP-A-0519 49 26;

D14: US-A-5 264 527; and

D15: "Characteristics and Application of Novel Acrylic Block Copolymers", K. Hamada *et al* in "Proceedings of the 28th Annual Meeting of the Adhesion Society, Mobile, AL, Feb 13-16 2005", pages 53-55.

The submissions of the appellant with respect to novelty and inventive step were disputed.

It was observed that the appellant had discussed only product claim 1 but not the respective sub-claims. It was further observed that the appellant had not challenged the patentability of independent method claim 11, or that of the product claim 21 or use claims 22 and 23 (recited in section III above).

VII. On 31 January 2007 the board issued a communication together with a summons to attend oral proceedings.

In the communication the board expressed its provisional, preliminary opinion *inter alia*:

(d) The feature "a solution of a pressure sensitive adhesive" of defined content of free monomer in an organic solvent gave rise to a number of objections:

(i) With regard Article 123(2) EPC it was noted that according to the application as originally filed solutions in an organic solvent were discussed either in the context of the background art or were employed in the process forming the subject matter of originally filed independent process claim 13 (corresponding to granted claim 11).

There was however no statement in the application as filed that solutions of the adhesives formed the subject matter of the application.

Accordingly it appeared that this subject matter extended beyond the content of the application as filed contrary to the requirements of Article 123(2) EPC.

(ii) With respect to Article 84 EPC it was objected that it was not clear whether the specified weight percentage of the monomers referred to the polymers or to the solution. Even if interpreted as relating to the polymers, an ambiguity would persist since it would not be possible unambiguously to assign the origin of a measured content of "free monomer" in the solution to the polymer. It could not be excluded that the

solvent itself might inherently contain an amount of a compound falling within the scope of the term "monomer".

(iii) An objection pursuant to Article 123(3) EPC arose as a consequence of the ambiguity noted in (ii) above. Insofar as the wording of the claim could be interpreted as defining the content of the free monomers in the solution (and not that of the olefinic polymers), as a result of dilution effects the claims now encompassed polymers with a higher content of free monomer than that encompassed by the granted claims. Thus the scope of protection conferred by the amended claims extended beyond that of the claims as granted.

(e) The board also took note of the statement of the appellant regarding the scope of the opposition (see section V(c) above).

VIII. Together with a letter received on 8 February 2007 the appellant submitted further pages (400 to 403) from D12 (see section V).

IX. Together with a letter dated and received on 20 March 2007 the respondent submitted sets of claims forming a new main and first and second auxiliary requests.

Further documents were also submitted:

D16: "Pressure Sensitive Adhesives", A. I. Everaerts and L.M. Clemens, Chapter 11 of "Adhesion Science

and Engineering -2 Surfaces, Chemistry and Applications" (M. Chaudhury, ed) (2002), pp 465, 466 and 530 and

D17: A declaration of Dr. Paul Foreman concerning the properties of a polymer prepared according to Example 5 of D1.

(f) *Main and first and second auxiliary requests*

- (i) The main request was stated to correspond to the claims in the version as granted.

Independent claims 1 and 11 of this request read as reported in section I above. The dependent claims 2-7 and 12-20 and claims 21-24 corresponded to the claims in the version as granted (see section I above).

Claims 8 and 9 however differed from the granted version due to the introduction of the indefinite article before "acrylic acid" as noted in section III above in respect of the former main request.

Claim 22 of this request, directed to a medicinal or veterinary medicinal plaster corresponding to claim 22 of the patent as granted (see section I above) did not have a counterpart in the set of claims on the basis of which the opposition division had decided that the patent could be maintained (see section III above).

- (ii) Claim 1 of the first auxiliary request was amended compared to the previous main request in that 100% polymer solids was specified as a basis for the weight % of free monomer.

Claim 1 of the first auxiliary request accordingly read:

"1. A solution of a pressure sensitive adhesive in an organic solvent characterized in that the pressure sensitive adhesive comprises one or more olefinic polymers wherein the content of free monomers is less than 0.3% by weight based on 100% polymer solids".

Dependent claims 2-10 were identical to the correspondingly numbered claims of the former main request including the noted indefinite article in claims 8 and 9 (see section III above).

Independent process claim 11 and dependent process claims 12-20 were identical to those of the former main request (see section III above).

Claim 21 corresponded to claim 21 of the former main request (see section III above), modified by insertion of the phrase "based on 100% polymer solids" at the end.

Claims 23 and 24 were identical to claims 22 and 23 respectively of the former main request (see section III above).

Claim 22, which did not have a counterpart in the former main request read as follows:

"22. A medicinal or veterinary medicinal plaster prepared using the solution of claim 1".

(iii) Claim 1 of the second auxiliary request was an independent process claim which read as follows:

"1. A process for the manufacture of an adhesive comprising one or more olefinic polymers wherein the content of the free monomers is less than 1% by weight, the process comprising after completion of polymerization or copolymerization of the polymer or polymers, the hydrogenation of the adhesive in an organic solvent in the presence of a heterogeneous or homogeneous catalyst".

Claims 2-10 were dependent process claims, corresponding to claims 12-20 of the former main request (see section III above), i.e. corresponding to claims 12-20 of the patent as granted (see section I above).

Independent claim 11 read as follows:

"11. Pressure sensitive adhesive, prepared by a process according to at least one of the claims 1 to 10, wherein the content of free monomer in the pressure sensitive adhesive is less than 0.3% by weight."

Claims 12 and 13 read as follows:

"12. Transdermal therapeutic system comprising a pressure sensitive adhesive according to claim 11.

13. Medicinal or veterinary medicinal plaster prepared using the pressure sensitive adhesive according to claim 11".

(g) With regard to the basis for the amendments made the respondent submitted as follows:

(i) The main request corresponded to the claims as granted.

(ii) With respect to the first auxiliary request and the feature "solution in an organic solvent" it was submitted that throughout the description it was clear for the skilled person that the pressure sensitive adhesive disclosed in the patent could be prepared by the process disclosed in the patent, reference being made to paragraph [0026] of the patent. Further, all examples described the production of the polymers which were

obtained as solutions in organic solvents. Filtering to remove the catalyst was also described, and it was described that when a large particle size catalyst was employed the necessity of filtering was avoided. Thus the skilled person would, when considering the disclosure of the application as filed in its entirety, understand without ambiguity that the invention was also directed to a solution of a pressure sensitive adhesive in an organic solvent.

With respect to the feature "based on 100% polymer solids" it was submitted that the skilled person could derive this feature without any ambiguity from the application as originally filed. In this connection, reference was made to Table 1 and Table 6 of the patent.

It was submitted that the requirements of Articles 84 and 123(3) EPC were satisfied by claim 1 of the first auxiliary request since this clarified that the content of free monomers was based on the polymer solids.

- (iii) With respect to the second auxiliary request it was submitted that claim 1 thereof corresponded to claim 11 of the granted claims.

No arguments or submissions were made concerning the admissibility pursuant to Article 123(2) EPC of claims 11-13 of this request.

- (h) Arguments in support of novelty and inventive step of the subject matter of the main, and first and second auxiliary requests were advanced.

With respect to the nature of a pressure sensitive adhesive and with reference to the disclosure of the newly submitted document D16, it was argued that a pressure sensitive adhesive had to satisfy at least five conditions:

- aggressive and permanently tacky;
- adheres without the need of more than finger or hand pressure;
- requires no activation by water, solvent or heat;
- exerts a strong holding force;
- has sufficient cohesiveness and elasticity that it can be removed from smooth surfaces without leaving a residue.

X. Oral proceedings were held before the board on 20 April 2007.

- (i) With regard to the main request (see section IX(a)(i) above) following an observation by the

chairman the respondent submitted that the indefinite article introduced into claims 8 and 9 was an error.

- (j) With respect to the scope of the claims of the main request (see section IX(a)(i) above) and the prohibition of *reformatio in peius* the appellant submitted that during the opposition proceedings the claims had been restricted to solutions and that the proprietor had not filed an appeal against this restriction. The claims of the main request, directed to pressure sensitive adhesives *per se*, were of much broader scope than those claims discussed during the opposition procedure. It was a basic principle that a respondent/patent proprietor had no right to defend such a broader claim.

The respondent submitted that in this case the provisions of G 1/99 (OJ EPO 2001, 381) were applicable since an amendment held admissible by the opposition division was - provisionally - found to be inadmissible by the board. It was further submitted that the admissibility of the main request with respect to the provisions of G 1/99 depended on the findings of the board with respect to compliance of the first auxiliary request with the provisions of Article 123(2) EPC.

- (k) With respect to Article 123(2) EPC in connection with the first auxiliary request the respondent submitted that if the application as a whole were read it would be understood that the product could be prepared by the process disclosed in the

application. Paragraph [0026] in combination with paragraph [0023] of the patent provided a disclosure of a process in solution with a content of monomer in the polymer of 0.3 wt%. Thus it would be understood that the product as claimed could be obtained by the disclosed process, which was carried out in an organic solvent. Therefore the feature that the polymer was in solution in an organic solvent did not constitute new information compared to the application as filed.

In this connection it was further submitted that the feature "solution" was a reasonable degree of generalisation which did not infringe Article 123(2) EPC.

Regarding the basis of the feature of the content of residual monomer being based on 100% of polymer solids, the respondent submitted that this was a clarification with a basis in Table 1 and Table 6.

The appellant submitted that solutions were only disclosed in association with the process. The process however employed a specific solution, containing the catalyst and hydrogenated monomers. Solutions were disclosed in paragraph 2 of the application in the context of setting out the technical background of the invention. It was disputed that this was part of the definition of the invention. Further, this part of the description referred to solutions of polymers, not to solutions of pressure sensitive adhesives. Thus this could also encompass for example polymers that only became pressure sensitive adhesives on

crosslinking. Apart from this disclosure, solutions were disclosed only in the context of the process.

It was disputed that there was any basis for the residual monomer content being based on 100% solids.

- (1) Following a break for deliberation by the board, the respondent submitted a new main and first-third auxiliary requests.
 - (i) The order of the main and first auxiliary requests had been reversed.
 - (ii) Compared to the requests previously on file, in the main request and first auxiliary request (formerly the first auxiliary request and main request respectively) claims 8 and 9 were amended by deletion of the indefinite article (see sections IX(a)(i) and X(a) above) and claim 22 of both requests directed to a "medicinal or veterinary plaster" was deleted and the following claims renumbered (see sections I and IX(a)(i) and (ii) above). The corresponding claim of the second auxiliary request (claim 13) was also deleted (see section IX(a)(iii) above).
 - (iii) Thus the main request, apart from the amendments noted in section (ii) above, corresponded to the set of claims on the basis of which the opposition division had

decided that the patent could be maintained (see section III). This request accordingly contained product claims directed to a solution of a pressure sensitive adhesive of specified content of free monomers based on 100% polymer solids. The first auxiliary request contained product claims directed to pressure sensitive adhesives. The claims of this request corresponded, apart from the deletion of granted claim 22 and consequential renumbering of the following claims as reported in section (ii) above to the claims of the patent as granted.

- (iv) The second auxiliary request was identical to the second auxiliary request submitted with the letter of 20 March 2007 (see section IX(a)(iii) above) with the sole difference that claim 13, directed to a medicinal or veterinary plaster and hence corresponding to claim 22 of the patent as granted and of the main and first auxiliary requests as filed with the letter of 20 March 2007 (see sections I and IX(a)(i) and (ii) above) had been deleted.

- (v) The third auxiliary request consisted of one independent and 9 dependent claims directed to a process for the manufacture of an adhesive, corresponding to independent claim 11 and dependent claims 12-20 of the patent as granted (see section I above) and of the main request on which the decision

under appeal had been based (see section III above).

- (vi) The appellant did not raise any objections to the introduction of these requests.

- (m) The chairman announced the decision of the board that the main request did not meet the requirements of Article 123(2) EPC and therefore was refused.

- (n) With regard to the first auxiliary request, the appellant observed that so far the discussion on substantive matters had been restricted to documents relating to pressure sensitive adhesives in organic solutions. The question was raised whether all documents cited in the opposition proceedings would be discussed.

The chairman reminded the parties that if any party wished to refer to documents not referred to in the appeal but only in the opposition proceedings that this was a matter for the discretion of the board.

- (o) *First auxiliary request - novelty*

During the course of the discussion on novelty, the respondent submitted that tackiness was a necessary but not sufficient condition for a material to be considered as a pressure sensitive adhesive. Reference was made to D16 (see section IX above) which was submitted to show that a total of five conditions had to be fulfilled by a

pressure sensitive adhesive, of which tackiness was one.

Following discussion of the aspects of novelty with respect to D1 and D13 and the announcement of the board's conclusion that the disclosures of these documents did not anticipate the subject matter of the claims of the first auxiliary request, the appellant sought to refer to D2 and D6.

- (i) The respondent objected that D2 and D6 could not be considered as forming part of the appeal proceedings and hence should not be taken into account. Any fact not presented in the statement of grounds of appeal had to be treated as a new submission and the normal requirements in respect of late filed documents applied. The fact that the appellant had not requested referral back to the opposition division should be taken into account by the board in exercising its discretion to admit these documents.
- (ii) The appellant submitted that during the opposition proceedings only solvent-containing systems had been considered hence there had been no cause to consider solvent-free systems such as those disclosed in D6.
- (iii) Following deliberation the board announced its decision that it was prepared to hear arguments on the basis of D6 which had been the basis of a novelty attack in the notice

of opposition. D2 had only been cited in respect of inventive step. Thus the board was not prepared to hear arguments of lack of novelty based on D2.

- (iv) The appellant submitted that the abstract D6 related to adhesive tapes which was a classical use of pressure sensitive adhesives. As taught by D12 page 397 the monomers disclosed in D6 were typically those used in pressure sensitive adhesives.

This was apparent from the keywords in D6. D6 disclosed polymerisation of acrylic acid, 2-ethylhexyl acrylate with a crosslinker and acrylic rubber. This was coated on a polyester film and exposed to UV radiation to give an adhesive tape with a residual monomer content of 0.02%.

- (v) The respondent challenged the publication date of the abstract D6 and disputed that the data in the abstract meant that the original Japanese language document had in fact contained the information reported in the abstract.

It could not be deduced from D6 that a pressure sensitive adhesive had been used since the reference to this was in the keyword section and hence was not necessarily part of the original disclosure. With respect to D12 (see section V above), it was disputed that this disclosed that

each and every composition prepared from the monomers reported therein would be pressure sensitive adhesives. It was also disputed, with reference *inter alia* to the disclosure of D13 (see section V above) that an adhesive tape necessarily had the properties of a pressure sensitive adhesive. It was submitted more specifically in relation to D6 that the backing layer of the tape was modified so that it did not adhere. However the adhesion properties of a normal pressure sensitive adhesive were not dependent on the surfaces. D6 did not refer to a pressure sensitive adhesive as such but to a tape which was a product of several components.

The appellant submitted with respect to the publication date of D6 that this was an abstract. The date of preparation of an abstract was usually about 18 + about 6 months after the priority date. From D6 it was apparent that the priority date of the patent of which D6 was an abstract fell within the year 1988, hence there could be no doubt that the abstract D6 had been published before the priority date of the patent in suit.

- (vi) Following deliberation the board announced its decision that the subject matter of claim 1 of the first auxiliary request lacked novelty in the light of D6.

(p) *Second auxiliary request- Rule 57a EPC*

(i) The chairman observed that product-by-process claims corresponding to claims 11 and 12 of the second auxiliary request (see section IX(a)(iii) above) had not been present in the patent in the form as granted or the form as maintained by the opposition division.

(ii) The respondent submitted that the patent as opposed had contained product claims, which claims had been found inadmissible. The product by process claims were equivalent to the product claims, and by this route it was possible to file claims directed to products differentiated from the prior art by the specific product properties. These claims did not extend the scope of protection compared to the patent in the form as granted or maintained.

The respondent proposed to reformulate claim 12 as a product claim, which request was refused by the board.

(iii) Following deliberation the board announced its decision that the second auxiliary request was refused.

(q) *Third auxiliary request*

The appellant raised no objections to the third auxiliary request.

XI. The appellant (opponent) requested that the decision under appeal be set aside and that the European patent no. 935 616 be revoked.

The respondent (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request or, in the alternative, on the basis of one of the first to third auxiliary requests, all filed at the oral proceedings.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request - Article 123(2) EPC*
 - 2.1 Claim 1 of the main request (formerly auxiliary request I submitted with the letter of 20 March 2007 - see sections IX(a)(ii) and X(d) above) relates to a solution of a pressure sensitive adhesive in an organic solvent having a defined content of free monomers based on 100% of polymer solids.
 - 2.2 Claim 1 of the application as filed had the wording:

"1. An adhesive comprising one or more olefinic polymers wherein the content of free monomers is less than 1% by weight".
 - 2.3 According to page 1, lines 4-6 of the description of the application as filed the invention relates to

adhesives containing polymers with a very low content of residual monomers, a process for their manufacture, and their application.

In the following paragraph it is explained that adhesive tapes, sticking plasters and the like are manufactured by coating films or paper with polymer solutions or suspensions. The solvents are subsequently removed by drying. In the same paragraph it is stated that especially suitable are solutions of polyacrylates in organic solvents.

In the discussion with respect to the background of the invention, it is explained, starting at page 1, line 11 that polyacrylate solutions are normally manufactured by polymerizing acrylic acid, its ester and in some cases vinyl acetate while adding free-radical initiators. Starting at page 1, line 17 it is indicated that it had been recognised in the recent past that a limitation of this process was that the least reactive monomer, e.g. vinyl acetate escaped polymerization. For this reason an excess of the least reactive monomer, e.g. vinyl acetate had been used. This had the disadvantage that the proportion of free vinyl acetate in the solution could amount to up to 7-8% in relation to the solids content. This could be reduced to about 3% by dilution. At page 2 starting at line 1 it is reported that residual monomer contents of such magnitude were undesirable for adhesives, in particular in the medical and cosmetics fields and for packaging in the foods sector. Accordingly there had been an industry-wide campaign aimed at reducing the content of residual polymers in polymer solutions.

At page 3, line 12 it is stated that the invention is an adhesive comprising one or more polymers prepared from olefinic monomers and wherein the content of free residual monomers is below a defined threshold, specifically, less than 1% by weight, preferably less than 0.3 % by weight, more preferably less than 0.02 % by weight, most preferably less than 0.01% by weight but not less than 0.0001% by weight.

Starting at page 3, line 24 it is stated that the invention relates specifically to pressure-sensitive adhesives, and discloses the preferred monomer compounds, referring particularly to pressure sensitive adhesives that contain a copolymer of 2-ethylhexyl acrylate and vinylacetate.

According to page 4, line 8 in another embodiment the invention is a process for the manufacture of an adhesive, the adhesive being defined as at page 3, line 12 of the application, referred to above, the process comprising, after completion of polymerization or copolymerization, the hydrogenation of the adhesive in an organic solvent in the presence of a heterogeneous or homogeneous catalyst.

According to page 6, lines 1-9 the use of the process enables the content of residual monomers to be reduced to below 0.3% or even as low as 0.01%.

The process is explained in more detail starting at page 6, line 23.

- 2.4 The respondent has argued in the written and oral submissions (see sections IX(b)(ii) and X(c) above)

that the preparation of the pressure sensitive adhesives was carried out in solution and that the skilled person would understand from this that the invention was also directed to a solution of a pressure sensitive adhesive in an organic solvent.

2.5 However as is apparent from the foregoing analysis (section 2.3) the application as filed discloses either

- adhesives or
- a process for the manufacture thereof

as being the subject matter of the invention.

Solutions of adhesives in organic solvents are disclosed only in the discussion of the background art, in the context of the use thereof to prepare articles, or in the context of the process by which these adhesives are produced, including the hydrogenation step.

There is however no disclosure - explicit or implicit - that solutions of the adhesives in organic solvents *per se* form part of the subject matter of the invention.

2.6 Accordingly claim 1 of the main request does not meet the requirements of Article 123(2) EPC.

2.7 Consequently the main request must be refused.

3. *First auxiliary request*

3.1 Admissibility - *reformatio in peius* - G 1/99

Claim 1 of the first auxiliary request relates to a pressure sensitive adhesive. In contrast thereto, claim 1 as maintained by the opposition division, specified a **solution** of a pressure sensitive adhesive (see section III above).

Since claim 1 of the first auxiliary request is directed to a pressure sensitive adhesive regardless of the form thereof, and in particular is not restricted to solutions thereof in an organic solvent, it is of broader scope than claim 1 as maintained by the opposition division.

3.1.1 Were the patent to be maintained on the basis of this request, the appellant would be in a worse position than it would have been had it not filed an appeal. Thus maintenance on the basis of this request would go against the principle of the prohibition of *reformatio in peius*.

3.1.2 According to the decision G 1/99 (referred to in section X(b) above) an exception to this principle may be made in order to meet an objection put forward by the opponent/appellant or the board during the appeal proceedings, in circumstances where the patent as maintained in amended form would otherwise have to be revoked as a direct consequence of an inadmissible amendment held allowable by the opposition division in its interlocutory decision.

In order to overcome the deficiency the proprietor may be allowed to file requests, as follows:

- in the first place, for an amendment introducing one or more originally disclosed features which limit the scope of the patent as maintained;
- if such a limitation is not possible, for an amendment introducing one or more originally disclosed features which extend the scope of the patent as maintained, but within the limits of Article 123(3) EPC;
- finally, if such amendments are not possible, for deletion of the inadmissible amendment, but within the limits of Article 123(3) EPC.

3.1.3 To apply G 1/99 to the present case:

- (a) The reason for the finding of non-compliance with the requirements of Article 123(2) EPC by the board was that the application as filed did not disclose a solution of the pressure sensitive in an organic solvent as being the subject matter of the invention (see section 2.5 above).

Accordingly any amendment limiting the scope while retaining the feature "solution" would likewise fail to meet the requirements of Article 123(2) EPC.

Accordingly the first remedy allowed by G 1/99 is not available.

- (b) Analogously an amendment introducing one or more originally disclosed features extending the scope of the claim would, insofar as the feature "solution" remained in the claim, also fail to address the objection with respect to Article 123(2) EPC.

Therefore the second remedy proposed by G 1/99 is not available.

- (c) The deletion of the inadmissible amendment constituting the feature "solution" and the associated basis for the weight % (100% polymer solids) results in claims of the same scope as those of the patent as granted.

Indeed these claims are identical to those as granted with the exception of the deletion of claim 22 (see sections IX(a)(i) and X(d)(ii) above).

Accordingly, the requirements of Article 123(3) are satisfied.

- (d) The claims of the first auxiliary request therefore comply with the third possibility set out in G 1/99, and in accordance with this decision constitutes an admissible amendment to address the objection pursuant to Article 123(2) in respect of the main request raised by the board.

3.2 *Article 123(2) EPC*

No objections were raised by the appellant in this respect in relation to the first auxiliary request. Nor has the board any objections of its own.

3.3 Novelty - Article 54 EPC

3.3.1 Documents to be considered

As reported in section X(g) above following discussion of novelty with respect to D1 and D13 and the conclusion that the disclosures thereof did not anticipate the subject matter of the independent claims of the first auxiliary request, the appellant sought to extend the debate to two further documents D2 and D6, both of which had been cited in the Notice of Opposition.

- (a) In the present case the effect of allowing the amendment to be made in exception to the prohibition of *reformatio in peius* (see section 3.1 above) is to restore the effective legal position to that at the point at which the notice of opposition was filed, i.e. to revert to the scope of the patent as granted. In view of the unexpectedness of this development and the procedural consequences it has for the appellant/opponent, the board considers it equitable to exercise its discretion to allow the appellant/opponent to refer to documents originally cited against novelty in its notice of opposition even if these were not considered in

the decision of the opposition division or referred to in the statement of grounds of appeal.

- (b) D2 had been cited in the Notice of Opposition in the context of an attack on inventive step. No submissions were made in respect of lack of novelty in relation to the disclosure of this document either in the Notice of Opposition or at any other point in the first instance opposition proceedings.

Accordingly the allegation, which had not been made prior to the oral proceedings before the board, that the disclosure of D2 would anticipate the subject matter of the patent in suit represents a change of case not only in respect of the current appeal proceedings but in respect of the original opposition. Considering that:

- the claims of the first auxiliary request are - with the exception of the absence of granted claim 22 - identical to those of the patent as granted and
- no reasons have been advanced to explain why, in divergence from the original assessment of the opponent D2 is now considered to anticipate the subject matter of these claims

the board does not consider it appropriate to exercise its discretion to allow the appellant thus to amend its case (Article 10b(1), Rules of Procedure of the Boards of Appeal).

Accordingly the arguments in respect of lack of novelty based on the disclosure of D2 are not admitted to the procedure.

- (c) D6, on the other hand had been cited against novelty of the subject matter of claim 1 of the patent in suit in the notice of opposition.

For the reasons explained in section 3.3.1(a) above, the appellant is also permitted to refer to these - originally advanced - arguments at the appeal stage.

3.3.2 *Novelty with respect to the disclosure of D6*

D6 is an abstract of a Japanese patent application and patent.

- (a) With regard to the objection by the respondent relating to the publication date and the concordance between the information content of the abstract and that of the original document, (see section X(g)(v) above) it is noted these objections were raised for the first time at the oral proceedings before the board. These objections were further supported by no documentary evidence.

The submission of the appellant (see section X(g)(v) above) that such abstracts were usually published some 24 months ("18+6") after the priority date was not challenged by the respondent.

Accordingly the objection of the respondent relating to the publication date of D6, apart from representing a change in its case and being presented for the first time at an advanced stage of the procedure, namely at the oral proceedings before the board and hence being inadmissible for this reason, (cf aforementioned Article 10b(1) Rules of Procedure of the Boards of Appeal), is supported by no evidence and hence is dismissed.

- (b) D6 discloses according to the field "AB" adhesive tapes, prepared without solvents. In the specific example given, a mixture of acrylic acid 5g, 2-ethylhexyl acrylate 95g, PhCOC(OMe)₂Ph 0.1g, hexanediol diacrylate 0.1g and acrylic rubber 5g was coated on a polyester film and irradiated with UV to give an adhesive tape with residual monomer content of 0.02%.

- (i) In the field (IT) D6 discloses "Polymerization (photochem., two-stage, of acrylic compds., in pressure-sensitive **adhesive** tape manuf." and "**Adhesive** tapes (pressure-sensitive, acrylic polymer-based, manuf. of, by two-stage photopolymn.) (emphasis of the abstract).

Therefore D6 contains an explicit statement of a pressure sensitive adhesive comprising one or more olefinic polymers, with a free monomer content within the range as specified by claim 1 of the first auxiliary request.

- (ii) At the oral proceedings, the respondent submitted that since this information was in the "keywords" portion of the abstract it was not necessarily part of the disclosure of the original document (see section X(g)(v) above). This submission, which had not been previously made during the opposition proceedings, amounts to an allegation that the abstract D6 did not accurately reflect the disclosure of the original document. The respondent has however advanced no evidence to support this position.

Accordingly this argument amounts to nothing more than an unsupported assertion and for this reason cannot be accorded any weight.

- (iii) The respondent further submitted in the written proceedings with reference to D16 (see section IX(c) above) that pressure sensitive adhesives had to satisfy at least five conditions.

At the oral proceedings (see section X(g) above) it was submitted, also with reference to D16, that tackiness was a necessary but not sufficient condition for a pressure sensitive adhesive.

It was further submitted at the oral proceedings (see section X(g)(v) above) that:

- an adhesive tape did not necessarily have the properties of a "pressure sensitive adhesive";
- the backing layer of the tape of D6 was modified so that it did not adhere;
- that the properties of a pressure sensitive adhesive were not dependent on the surfaces.

Firstly, with regard to the submissions in relation to the properties to be fulfilled by a "pressure sensitive adhesive" (section IX(c) above), namely that this term implies a particular adhesion behaviour the board notes that the only document that discloses this particular type of behaviour with a pressure sensitive adhesive is D16 (see section IX(c) above), which was published in 2002, i.e. several years after the priority date of the patent in suit.

In particular there is nothing in the patent in suit which would imply anything more precise for the term "pressure sensitive adhesive" than that it is something which sticks when pressure is applied to it, i.e. is tacky. Even if a narrower interpretation were appropriate, it is clear from D6 that what is disclosed is a "pressure sensitive adhesive". Consequently the board can see no reason for applying a different scope for the term in D6 and in the patent.

Secondly, in this connection, it is clear from a consideration of the adhesive behaviour of something like a film covered with a pressure sensitive adhesive that it will stick permanently to some substrates, such as ordinary paper. However in the case of other substrates, for example the back of the next lower layer in a roll of such film it forms a weaker adhesive bond with the result that it may be peeled off. In other words, the quality of "pressure sensitive" adhesiveness of a substance is essentially an extrinsic property of that substance, rather than an intrinsic property, as argued by the respondent at the oral proceedings before the board (see section X(g)(v) above). This is because the manifestation of its adhesive effect depends on the nature of the extraneous substrate with which it is brought into contact, i.e. on deliberate choices being made (G 1/92, OJ EPO 1993, 277, Reasons 3).

- (c) D6 therefore discloses a pressure sensitive adhesive with a content of free monomer of less than 0.3% by weight with the consequence that the subject matter of claim 1 of the first auxiliary request is not novel.

3.4 The first auxiliary request must therefore be refused.

4. *Second auxiliary request*

Independent claim 1 of the second auxiliary request is directed to a process, corresponding to the subject matter of originally filed independent process claim 13 in combination with originally filed independent product claim 1 (see section IX(a)(iii) above) and corresponding to granted claim 11 (see section I above).

Claims 11 and 12, the wording of which is reported in section IX(a)(iii) above are product by process claims directed to the pressure sensitive adhesive and transdermal therapeutic systems containing said adhesive respectively.

4.1 Neither the patent as granted, nor the set of claims as maintained by the opposition division contained any claims of the format "product by process". It is therefore necessary to consider whether the introduction of such claims is permissible.

4.2 According to Rule 57a EPC amendments to a European patent may be made provided that the amendments are occasioned by grounds of opposition specified in Article 100 EPC.

4.2.1 The respondent submitted (see section X(h)(ii) above) that these claims had been filed in order to obtain claims equivalent in scope to the product claims held inadmissible by the board.

4.2.2 This submission demonstrates that these amendments were not directed addressing a ground of opposition, i.e. were not occasioned by a ground of opposition, but were

intended to compensate for the effects of an amendment that had been made to address such a ground, namely deletion of the product claims.

4.2.3 Accordingly the introduction of the product by process claims is not an amendment occasioned by a ground of opposition (Rule 57a EPC).

4.3 The second auxiliary request is therefore not admissible.

5. *Third auxiliary request*

5.1 The appellant raised no objections to this request (see sections V(c) and X(i) above).

5.2 The board also has no objections of its own to the third auxiliary request.

5.3 Accordingly the third auxiliary request is both admissible and allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent on the basis of the third auxiliary request (claims 1 to 10) filed at the oral proceedings and after any necessary consequential amendment of the description.

The Registrar:

The Chairman:

E. Goergmaier

R. Young