

**Internal distribution code:**

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

**D E C I S I O N**  
**of 24 November 2004**

**Case Number:** T 0234/00 - 3.3.7

**Application Number:** 94105264.9

**Publication Number:** 0619111

**IPC:** A61K 7/06

**Language of the proceedings:** EN

**Title of invention:**

Use of polyurethanes with carboxylate functionality for hair fixative applications

**Patentee:**

National Starch and Chemical Investment Holding Corporation

**Opponent:**

BASF Aktiengesellschaft

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 54

**Keyword:**

"Novelty - (no) (all requests)"

**Decisions cited:**

G 0001/03, T 0188/83, T 0666/89

**Catchword:**

-



Case Number: T 0234/00 - 3.3.7

**DECISION**  
of the Technical Board of Appeal 3.3.7  
of 24 November 2004

**Appellants:** National Starch and Chemical Investment  
(Proprietors of the patent) Holding Corporation  
501 Silverside Road  
Wilmington, Delaware 19809 (US)

**Representative:** Hagemann, Heinrich, Dr.rer.nat., Dipl.-Chem.  
Meissner, Bolte & Partner  
Postfach 86 03 29  
D-81630 München (DE)

**Respondents:** BASF Aktiengesellschaft  
(Opponents) Patente, Marken und Lizenzen  
D-67056 Ludwigshafen (DE)

**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
17 December 1999 concerning maintenance of  
European patent No. 0619111 in amended form.

**Composition of the Board:**

**Chairman:** R. E. Teschemacher  
**Members:** G. Santavicca  
B. J. M. Struif

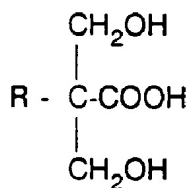
## Summary of Facts and Submissions

I. The grant of European patent 0 619 111, in respect of European patent application 94 105 264.9, filed on 5 April 1994 and claiming a right of priority in the U.S.A. of 6 April 1993 (US 43241), was published on 27 December 1996. The patent as granted contained the following independent claim:

"1. An aqueous based hair fixative composition that comprises

(A) an effective percent by weight, based on the total weight of the hair fixative composition, of a fully reacted carboxylated linear polyurethane comprising the reaction product of

(i) one or more 2,2-hydroxymethyl-substituted carboxylic acids, represented by the formula



in which R represents hydrogen, or C<sub>1</sub> - C<sub>20</sub> alkyl, present in a sufficient amount by weight to give 0.35-2.25 milliequivalents of carboxyl functionality per gram of polyurethane,

(ii) 10-90% by weight, based on the weight of the polyurethane, of one or more organic compounds each having no more than two active hydrogen atoms, and

(iii) one or more organic diisocyanates present in a sufficient amount to react with the active hydrogens of

the 2,2-hydroxymethyl-substituted carboxylic acid and the organic compounds, excepting the hydrogen on the carboxylate of the 2,2-hydroxymethyl-substituted carboxylic acid;

(B) an effective amount of one or more cosmetically acceptable organic or inorganic base to neutralize a sufficient proportion of the available carboxyl groups on the polyurethane to make the polyurethane soluble in water or in a mixture of water and polar organic solvent; and

(C) a solvent comprising  
(i) water, and  
(ii) 0-85%, by weight of the solvent, of one or more polar organic solvents."

II. A notice of opposition was received on 19 September 1997, in which revocation of the patent was requested on the grounds that the claimed subject-matter lacked novelty having regard to document (D1) WO-A-94/03510 (Article 100, paragraph (a), EPC).

In an interlocutory decision notified in writing on 17 December 1999, which was based on six sets of amended claims as the main and the first to fifth auxiliary requests, all submitted during the oral proceedings held on 30 November 1999, the Opposition Division found that the patent amended according to the fifth auxiliary request fulfilled the requirements of the EPC. The claims granted for the contracting state NL remained unamended. Claim 1 of the fifth auxiliary request for the designated contracting states BE, DE, FR, GB and IT differed from Claim 1 as granted by the

feature "(iii) one or more organic diisocyanates selected from the group consisting of methylene-di-p-phenyl diisocyanate and methylene-bis-(4-cyclohexylisocyanate)".

In its decision, the Opposition Division held that:

- (a) The patent granted for the contracting state NL was not affected by the opposition, which instead was directed against the patent granted for the other designated contracting states.
- (b) Although Claim 1 according to the main request disclaimed some compositions exemplified in D1, its subject-matter nevertheless lacked novelty having regard to the whole disclosure of D1.
- (c) The subject-matter of Claims 1 according to each of the first, second, third and fourth auxiliary requests contravened the requirements of Article 123(2) EPC, because the undisclosed disclaimers present in those Claims 1 excluded subject-matter which was not disclosed in D1.
- (d) The claims according to the fifth auxiliary request instead fulfilled the requirements of the EPC. So did the description that had been brought into line with the claims during the oral proceedings.

III. On 24 February 2000, the patent proprietors (appellants) lodged an appeal against that decision; the fee for appeal was paid on the same day.

In their notice of appeal, the appellants enclosed three sets of amended claims as the first to third auxiliary requests replacing the first to third auxiliary requests then on file. Further, the main request and the fifth auxiliary request underlying the impugned decision were maintained as the main request and the fourth auxiliary request, respectively.

Compared to Claim 1 as granted, each Claim 1 according to the main request and the first to third auxiliary requests contained the following amendments, respectively:

*Main request*

"with the proviso that the following compositions a) to d) are excluded:

- (a) a composition consisting of 3% of a polyurethane (1), 0.26% 2-amino-2-methyl-propanol, 10% dest. H<sub>2</sub>O, 51.74% abs. ethanol and 35% dimethyl ether,
- (b) a composition consisting of 6% of a polyurethane (1), 0.52% 2-amino-2-methyl-propanol and 93.48% dest. H<sub>2</sub>O,
- (c) a composition consisting of 4% of a polyurethane (2), 0.37% 2-amino-2-methyl-propanol and 95.63% dest. H<sub>2</sub>O, and
- (d) a composition consisting of 4% of a polyurethane (2), 0.37% 2-amino-2-methyl-propanol, 63.75% dest. H<sub>2</sub>O and 31.88% ethanol,

whereby the polyurethane (1) is the reaction product of 1 part by mol of a polyesterol having a  $M_w$  of 1000g/mol from isophthalic acid, adipic acid and hexanediol, 2 parts by mol of neopentylglycol, 3 parts by mol of dimethylol propionic acid and 6 parts by mol of isophorone diisocyanate, and

whereby the polyurethane (2) is the reaction product of 1 part by mol of a polyesterol having a  $M_w$  of 450 g/mol from phthalic acid and diethylene glycol, 1.5 parts by mol of dimethylol propionic acid, 2.7 parts by mol of isophorone diisocyanate and 0.03 parts by mol piperazine."

*First auxiliary request*

"with the proviso that polyurethanes comprising simultaneously dimethylol propionic acid as component (A)(i) and isophorone diisocyanate as component (A)(iii) are excluded."

*Second auxiliary request*

"selected from the group consisting of methylene-di-p-phenyl diisocyanate, methylene-bis(4-cyclohexylisocyanate), toluene diisocyanate, 1,5-naphthalene diisocyanate, 4,4'-diphenylmethane diisocyanate, 2,2'-dimethyl-4,4'-diphenylmethane diisocyanate, 4,4'-dibenzyl-diisocyanate, 1,3-phenylene diisocyanate, 1,4-phenylene diisocyanate, mixtures of 2,4- and 2,6-toluene diisocyanate, 2,2'-dichloro-4,4'-diisocyanato diphenylmethane, 2,4-dibromo-1,5-diisocyanato naphthalene, butane-1,4-diisocyanate and hexane-1,6-diisocyanate, cyclohexane-1,4-diisocyanate."

*Third auxiliary request*

"selected from the group consisting of methylenedi-p-phenyl diisocyanate, methylene-bis-(4-cyclohexylisocyanate), and toluene diisocyanate."

The statement setting out the grounds of appeal was received on 14 March 2000.

- IV. In a letter dated 24 July 2000, the opponents (respondents) objected to the new requests of the appellants.
- V. In reply to a communication of the Board in preparation for oral proceedings, the appellants announced that they would not attend the oral proceedings (letter dated 27 October 2004).
- VI. Oral proceedings were held on 24 November 2004. As announced, the appellants did not attend the oral proceedings, which thus were continued in their absence pursuant to Rule 71(2) EPC.
- VII. In their statement setting out the grounds of appeal, the appellants argued essentially as follows:
  - (a) As to the main request, the skilled person reading the general disclosure in D1 could arrive at the claimed subject-matter only if specific components mentioned in D1 were picked out of the listed ones. Therefore, only the examples of D1 were relevant for assessing novelty. However, hair compositions (b) to (e) exemplified in D1 had been disclaimed



in Claim 1. Since exactly the novelty destroying parts of D1 had been disclaimed, the disclaimer was allowable. Its formal allowability had not been objected to in the impugned decision. Therefore, the subject-matter of Claim 1 according to the main request was novel having regard to D1.

- (b) Regarding Claim 1 of the first auxiliary request, it disclaimed all polyurethanes simultaneously comprising dimethylol proprionic acid and isophorone diisocyanate. Since D1 only exemplified hair compositions with polyurethanes that always contained said components, the subject-matter of Claim 1 was novel over D1.
- (c) As regards the second auxiliary request, Claim 1 defined diisocyanates as disclosed in the application as filed, with the exception of isophorone diisocyanate. Since D1 exemplified only polyurethanes based on isophorone diisocyanate, the subject-matter of Claim 1 was novel.
- (d) As to the third auxiliary request, the preferred diisocyanates of Claim 10 as granted had been incorporated into Claim 1, with the exception of isophorone diisocyanate. Thus, Claim 1 was novel over D1 for the same reasons as for the second auxiliary request.
- (e) The fourth auxiliary request corresponded to the fifth auxiliary request underlying the impugned decision, which had been found allowable.

VIII. The respondents argued essentially as follows:

- (a) As regards the main request, not only the polyurethanes of Examples 1, 2, 3 and 5 of D1, which had been disclaimed in Claim 1 in suit, were relevant but also the polyurethane of Example 6. All those polyurethanes possessed features (A)(i), (A)(ii) and (A)(iii) of Claim 1 in suit. Furthermore, according to Footnote 2 of the Tables in D1, those polyurethanes had been used in aqueous compositions, after neutralisation with 2-amino-2-methyl-propanol, in which the neutralised polyurethane was soluble. Those compositions also imparted a curl retention to the tested hairs, as illustrated. Therefore, D1 disclosed further hair fixing compositions which took away the novelty of the claimed subject-matter according to the main request.
  
- (b) As to the first to third auxiliary requests, all disclaiming the use of isophorone diisocyanate, the exception of a specific combination was not sufficient because the whole disclosure of D1 went beyond the exemplified combinations, as established in T 188/83 (OJ EPO 1984,555) and T 666/89 (OJ EPO 1993,495). The component 2,2-di-(hydroxymethyl)propionic acid was individualised as such and exemplified in six of the seven examples of D1, hence it was the most preferred component (A)(i). Although D1 exemplified the use of isophorone diisocyanate, it clearly mentioned that isophorone diisocyanate, toluene diisocyanate and hexamethylene-diisocyanate were the most preferred diisocyanates. Hence, toluene

diisocyanate and hexamethylene-diisocyanate were disclosed in a short list as equally preferred diisocyanates, i.e. as equally suitable component (A)(iii). Since that situation did not include two independent lists of components but only a possibility of using two alternative diisocyanates together with 2,2-di-(hydroxymethyl)propionic acid, there was no room for a selection invention. Therefore, the amendments in the first to third auxiliary requests could not render novel the claimed subject-matter, in line with the impugned decision.

- (c) In addition to lack of novelty, there was no basis in D1 for the disclaimer in Claim 1 of the first auxiliary request, which consequently was not allowable.
- (d) Further, with respect to Claim 1 of the second auxiliary request, the group of diisocyanates without isophorone diisocyanate had not been disclosed originally. The same conclusions applied to Claim 1 of the third auxiliary request. Hence, also those disclaimers were not allowable.

IX. The appellants (proprietors) had requested in writing that the decision under appeal be set aside and that the patent be maintained as follows:

- (a) with regard to the designated contracting state NL, the patent as granted; and,
- (b) with regard to the other designated contracting states, on the basis of the main request

underlying the decision under appeal (main request), or, alternatively, according to any of the three auxiliary requests filed with the notice of appeal, or, according to the fourth auxiliary request corresponding to the fifth auxiliary request underlying the decision under appeal and held allowable by the Opposition Division.

- X. The respondents (opponents) requested that the appeal be dismissed.

### **Reasons for the Decision**

1. The appeal is admissible.

#### **Main request**

#### *Amendments*

2. The impugned decision did not deal with the amendments to the claims according to the main request. Those amendments were not objected to by the respondents in the appeal proceedings (letter dated 24 July 2000). In a communication of the Board in preparation for the oral proceedings attention was drawn to decision G 1/03 (OJ EPO 2004, 413) and to a number of questions which arose in connection with the allowability of disclaimers. However, the appellants have neither replied to that communication nor have they attended the oral proceedings. Considering that there are no arguments of the appellants on the formal allowability of the amendments and since the main request does fail for lack of novelty (point 3, *infra*), the question

whether or not the amendments fulfil the requirements of the EPC can be left undecided.

*Novelty*

3. The only prior art document within the proceedings is D1.

3.1.1 Since D1 has a priority date of 29 July 1992, i.e. before the priority date of the patent in suit, but has been published on 17 February 1994, i.e. after the priority date of the patent in suit, D1 is an earlier European patent application pursuant to Article 54(3)(4) EPC. That view has not been contested.

3.1.2 According to the European patent register and the specification of the European patent granted from D1 (EP-B-0 656 021), the following contracting states have been designated in D1: BE, CH, DE, ES, FR, GB, IT, LI. The patent-in-suit designates the following contracting states: BE, DE, FR, GB, IT, NL. Thus, D1 designates all contracting states designated in the patent in suit but the Netherlands. Consequently, the objection of lack of novelty based on D1 does not extend to the claims for the contracting state NL.

3.1.3 D1 concerns the use of polyurethanes which are soluble or dispersible in water and are composed of

- (a) at least one compound which contains two or more active hydrogens per molecule,
- (b) at least one diol containing acid groups or salt groups and
- (c) at least one diisocyanate

with a glass transition temperature of at least 15°C and acid numbers of from 12 to 150 or the salts of these polyurethanes in cosmetic and in pharmaceutical compositions (Claim 1). Hence, D1 concerns aqueous compositions comprising polyurethanes obtained by reacting starting compounds which are similar to those specified in Claim 1 in suit.

According to the respondents, acid numbers of from 12 to 150 correspond to from 0.21 to 2.67 milliequivalents of carboxyl functionality per gram of polyurethane (Notice of opposition). This fact is not contested by the appellants (letter dated 9 March 1998). Hence, the range of 0.35 to 2.25 milliequivalents of carboxyl functionality per gram of polyurethane defined in feature (A)(i) of Claim 1 in suit corresponds to a large part of the range disclosed in D1.

Diols, diamines, polyesterols, polyetherols or mixtures thereof with a molecular weight (number average) of in each case up to 3000 are used as compounds in group (a), although it is possible to replace up to 3 mol% of said compounds by triols or triamines (Claim 2). Thus, a preferred component (a) is a diol, which is an organic compound having two active hydrogen atoms as specified in Claim 1 in suit.

Dimethylolpropanoic acid is one of the three preferred diols containing acid groups (Claim 4). Therefore, dimethylol propanoic acid is a preferred diol containing acid groups and corresponds to compound (A)(i) of Claim 1 in suit.

Hexamethylene diisocyanate, isophorone diisocyanate and/or toluylene diisocyanate are the preferred compounds of group (c) (Claim 5). These diisocyanates are also mentioned in the patent-in-suit as suitable compounds A(iii) as defined in Claim 1 in suit (page 4, first paragraph).

According to the general preparation conditions described on page 10 of D1 (last paragraph), the mixture containing compounds (a), (b) and (c) is maintained under reaction conditions until the content of isocyanate groups becomes constant (page 10, lines 30 to 33). Thereafter, a diamine such as piperazine, acting as chain extender (page 7, lines 1 to 5), can be used to reduce the content of isocyanate groups to zero (page 10, lines 33 to 38). In the absence of any chain extender, the remaining isocyanate groups are inactivated by addition of e.g. 2-amino-2-methyl-propanol (page 10, lines 38 to 41). Therefore, a fully reacted carboxylated linear polyurethane is envisaged by D1.

The polyurethanes according to D1, after neutralisation, are soluble or dispersible in water, i.e. without the need of any emulsifiers (page 9, lines 6 to 8). A number of suitable bases for neutralisation are disclosed in D1, *inter alia* amines (page 9, lines 12 to 17). As far as hair compositions are concerned, D1 teaches that 2-amino-2-methylpropanol, diethylaminopropylamin and triisopropanolamin are particularly suitable bases for neutralisation (page 9, lines 17 to 20). That neutralisation, depending on the kind of application, may be 100% (page 9, lines 24 to

26). Therefore, feature (B) of Claim in suit is also disclosed in D1.

3.1.4 It is apparent from the above that D1 concerns aqueous compositions corresponding to those defined in Claim 1 in suit. The appellants however argued that the skilled person had to make several choices among the preferred ingredients disclosed in D1 to arrive at the claimed composition. In particular, the disclaimed exemplified compositions in Claim 1 were sufficient to establish novelty. Therefore, it is necessary to consider the examples of D1 to ascertain whether or not further compositions envisaged by D1 fall within the definition of Claim 1 in suit. The following picture can be gathered from the examples of D1:

3.1.5 Seven polyurethanes have been exemplified (Tables on pages 14 and 15). Polyurethanes 1 to 5 are known, whereas polyurethanes 6 and 7 have been made available by D1 (page 12, lines 16 to 18). Polyurethane 7 has not been prepared from dimethylol propionic acid and cannot be novelty destroying. Polyurethanes 1 to 6 have been made from dimethylol propionic acid as compound (b) and isophorone diisocyanate as compound (c), which compounds fall within the disclosure of the patent-in-suit, apart from the compositions containing isophorone diisocyanate which have been excluded by the disclaimer. As regards compound (a), several diols have been used for making polyurethanes 1 to 6. In particular, polyurethanes 2, 3 and 5 have been made from the following compounds (a), respectively: a polyesterdiol (P(ADS-DEG)) having a molecular weight MW of 500 consisting of adipic acid and diethylene glycol; a mixture of one mole of polyesterdiol (P(IPS/ADS-VI))



having a molecular weight MW of 1000 consisting of isophthalic acid, adipic acid and hexanediol and 2 moles of neopentyl glycol (NPG); and, a polyesterdiol (P(PS-DEG)) having a molecular weight MW of 450 consisting of phthalic acid and diethylene glycol. All the polyesterdiols P(ADS-DEG), P(IPS/ADS-VI) and P(PS-DEG) used in polyurethanes 2, 3 and 5 not only fulfil definition A(ii) of Claim 1 in suit but are indicated as suitable polyesterdiols in the description of the patent in suit (page 3, lines 28 to 34). Also the diol used in polyurethane 6, which is based on one mole of P(MIS-EG) (i.e. based on polylactic acid and ethylenglycol) fulfils definition (A)(ii) of Claim 1 in suit. It has never been contested that the amount of the polyesterdiols in polyurethanes 2, 3 and 5 also fulfils the requirement that compound (A)(ii) should be present in an amount of 10-90% by weight, based on the weight of the polyurethane. The respondents have shown during the oral proceedings that this requirement is also fulfilled for polyurethane 6. Therefore, polyurethanes 2,3, 5 and 6 fulfil all conditions (A)(i), (A)(ii) and (A)(iii) as defined in Claim 1 in suit.

3.1.6 Polyurethanes 3 and 5 have been used in aqueous based hair fixative compositions as follows (pages 12 and 13):

(a) Aerosol-hairspray (aqueous-alcoholic)	
Polyurethane 3	3%
2-Amino-2-methyl-propanol	0.26%
Distilled water	10.00%
Ethanol abs.	51.74%
Dimethylether	35%

(b) Handpumpspray		
Polyurethane 3		6%
2-Amino-2-methyl-propanol		0.52%
Distilled water		93.48%
(c) Hair (purely aqueous)		
Polyurethane 5		4.00%
2-Amino-2-methyl-propanol		0.37%
Distilled water		95.63%
(d) Hair (aqueous-alcoholic)		
Polyurethane 5		4.00%
2-Amino-2-methyl-propanol		0.37%
Distilled water		63.75%
Ethanol abs.		31.88%

These hair compositions have however been disclaimed in Claim 1 in suit. This fact shows that D1 discloses hair compositions falling under the terms of Claim 1 (without the disclaimers).

3.1.7 Nevertheless, the disclosure of D1 goes beyond hair compositions (b) to (e), now disclaimed in Claim 1 in suit. According to Footnote 2 to the Table on page 15 of D1, the water solubility of polyurethanes 1 to 7, hence of polyurethanes 2, 3, 5 and 6, has been tested at pH 7, after neutralisation with 2-amino-2-methyl-propanol, at a concentration of 5%, at room temperature. In particular, it is apparent from the Table on page 15 that polyurethanes 2, 5 and 6 are water soluble. Thus, in view of the neutralisation with 2-amino-2-methylpropanol (indicated as preferred neutraliser in the patent in suit, page 4, line 36) and the water solubility shown by polyurethanes 2, 5 and 6,

the definitions of features (B) and (C) of Claim 1 in suit are also fulfilled by the further compositions disclosed by D1. Furthermore, a curl retention of those polyurethanes has also been determined, as resulting from the penultimate column of the Table on page 15. These solutions are thus suitable aqueous based hair fixative compositions.

3.1.8 These facts have been mentioned in the decision under appeal (pages 5 and 6) as well as in the communication of the Board in preparation for the oral proceedings. The appellants, however, have not countered these arguments.

3.1.9 Since D1 discloses hair compositions other than those which have been disclaimed, in particular those based on polyurethanes 2, 5 and 6, those further compositions fulfilling the definition of Claim 1 in suit, the subject-matter of Claim in suit is not novel. Consequently, the main request is not allowable.

#### **First auxiliary request**

#### 4. *Novelty*

4.1 Claim 1 according to the first auxiliary request includes the disclaimer "with the proviso that polyurethanes comprising simultaneously dimethylol propionic acid as component (A)(i) and isophorone diisocyanate as component (A)(iii) are excluded."

4.2 Since isophorone diisocyanate has been used in all the examples, this disclaimer aims at taking away the

disclosure of the polyurethanes and hair compositions exemplified in D1.

4.3 However, not only the examples of a document should be regarded as state of the art. According to the established case law of the Boards of Appeal of the EPO (4<sup>th</sup> edition, 2001, I.C.2.7, in particular in connection with T 666/89, *supra*) it is necessary to consider the whole content of a citation when deciding the question of novelty. In applying this principle, the evaluation has therefore not to be confined merely to a comparison of the claimed subject-matter with the examples of a citation, but has to extend to all the information contained in the earlier document. Hence, it has to be established what has been made available to the skilled person reading the specification.

4.4 In the present case, the preferred diols containing acid groups are dimethylol propionic acid and the compounds having formulae (II) and (III) (page 6 and Claim 4 of D1). In the list of the preferred diols containing acid groups, dimethylol propanoic acid not only is mentioned first but is the only individualized compound as such, whereas the other two preferred diols are given in form of Markush formulae (II) and (III). Furthermore, dimethylol propanoic acid is exemplified in six of the seven examples of D1 (pages 14 and 15). Hence, dimethylol propionic acid represents the only specifically mentioned compound (b) used in 6 of the 7 polyurethanes exemplified in D1. The other diols merely represent generically disclosed classes of compounds. In particular, the class according to Formula II comprises diols with two carboxylic acid groups, for which only one specific example is given, a condensate

based on pyromellitic acid dianhydride and neopentylglycol (Example 7). The second class according to Formula III actually concerns compounds which do not contain carboxylic acid groups. Hence, as far as the diol containing acid groups is concerned, the disclosure of D1 addresses embodiments where the first individually mentioned compound is more prominent than the other two classes of compounds. Thus, that disclosure of D1 does not represent a situation where a list of equivalent diols containing carboxyl acid groups are disclosed on the same level.

4.5 As regards the diisocyanates, D1 discloses, firstly, that all the usual diisocyanates can be used. In particular, it is mentioned, in alphabetical order, that the most preferred compounds (c) are hexamethylene diisocyanate, isophorone diisocyanate and/or toluene diisocyanate, so that all specifically named compounds are disclosed on the same level, as suitable alternatives. Although only isophorone diisocyanate is used in all of the examples, it can be gathered from the context of the disclosure of D1 that the other two diisocyanate compounds are suitable alternatives as well, so that the skilled person would seriously contemplate using any of hexamethylene diisocyanate or toluene diisocyanate, two of the most preferred among the usual diisocyanates, instead of isophorone diisocyanate.

4.6 It follows from the above analysis, that the disclosure of D1 cannot be restricted to the exemplified compositions and makes available further embodiments which, instead of isophorone diisocyanate, can use any of hexamethylene diisocyanate and toluene diisocyanates

with dimethylol proprionic acid. Since the subject-matter of Claim 1 in suit still covers such embodiments, it lacks novelty over the disclosure of D1.

- 4.7 In view of the above reasons, it can be left undecided whether or not the amendment fulfils the requirements of the EPC, in particular whether or not the disclaimer is allowable.

### **Second auxiliary request**

#### 5. *Novelty*

Claim 1 according to the first auxiliary request includes a specific list of the suitable organic diisocyanates, which has been taken from the description of the patent in suit (page 4, first paragraph). Although that list does not include isophorone diisocyanate, used in all of the examples of D1, it does include toluene diisocyanates and hexane-1,6-diisocyanate, which are mentioned as equally preferred diisocyanates in Claim 4 of D1. Since the list of diisocyanates according to Claim 1 includes diisocyanates of D1, the claimed subject-matter cannot be distinguished from D1 in that respect, so that the factual situation with the second auxiliary request is not different from the situation of the first auxiliary request as far as novelty is concerned. Hence, the conclusions drawn for the first auxiliary request apply *mutatis mutandis* to the second auxiliary request as well. The subject-matter of Claim 1 lacks novelty. Consequently, the second auxiliary request is also not allowable.

### **Third auxiliary request**

6. *Novelty*

Claim 1 according to the third auxiliary request includes the amendment that the organic diisocyanate is "selected from the group consisting of methylenedi-p-phenyl diisocyanate, methylene-bis-(4-cyclohexylisocyanate), and toluene diisocyanate". That amendment has a basis in Claim 10 as granted, which is based on the description as filed.

However, for the same considerations applied above to the second auxiliary request, the presence of toluene diisocyanate in the list of the organic diisocyanates, also mentioned in Claim 4 of D1, leads to the conclusion that the claimed subject-matter lacks novelty. Consequently, the third auxiliary request is not allowable either.

### **Fourth auxiliary request**

7. The fourth auxiliary request corresponds to the fifth auxiliary request underlying the decision under appeal, which was held to fulfil the requirements of the EPC. Since the opponents have not lodged an appeal against that interlocutory decision, the proprietors are the only appellants. In view of the "prohibition of *reformatio in peius*" arising from that situation, neither the Board nor the non-appealing opponents can challenge maintenance of the patent as thus amended (Case Law of the Boards of Appeal, *supra*, VII.D.6.1).

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

C. Eickhoff

R. Teschemacher