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**Datasheet for the decision
of 28 March 2007**

Case Number: T 0162/04 - 3.3.09

Application Number: 94909924.6

Publication Number: 0695322

IPC: C08J 9/14

Language of the proceedings: EN

Title of invention:

Process for preparing rigid polyurethane foams

Patentee:

HUNTSMAN INTERNATIONAL LLC

Opponents:

THE DOW CHEMICAL COMPANY
Bayer MaterialScience AG

Headword:

-

Relevant legal provisions:

EPC Art. 84, 104, 112(1), 123(2)

EPC R. 57a

RPBA Art. 10b, 11a, 11b

Keyword:

"Admissibility of late filed main request (yes)"

"Admissibility of late filed auxiliary requests (no)"

"Referral to the Enlarged Board of Appeal (no)"

"Clarity of main request (yes)"

"Admissibility of amendments (no)"

"Apportionment of costs (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 0162/04 - 3.3.09

DECISION
of the Technical Board of Appeal 3.3.09
of 28 March 2007

Appellant: HUNTSMAN INTERNATIONAL LLC
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Representative: -

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 8 December 2003
revoking European patent No. 0695322 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. Kitzmantel
Members: N. Perakis
K. Garnett

Summary of Facts and Submissions

I. Mention of the grant of European patent No 0 695 322 in respect of European patent application No 94909924.6 (PCT/EP94/00642) in the name of IMPERIAL CHEMICAL INDUSTRIES PLC (now HUNTSMAN INTERNATIONAL LLC) was announced on 19 August 1998 (Bulletin 1998/34). The European patent application had been filed on 4 March 1994 claiming two GB priorities, the first of 23 April 1993 (GB 9308449), the second of 20 July 1993 (GB 9315130). The patent, entitled "Process for preparing rigid polyurethane foams", was granted with seven claims. Independent process Claim 1 and independent product Claims 4 and 5 read as follows:

- "1. Process for the preparation of a rigid polyurethane or urethane-modified polyisocyanurate foam by reaction of a polyisocyanate composition with a polyfunctional isocyanate-reactive composition under foam-forming conditions in the presence of a blowing agent mixture comprising cyclopentane, characterised in that said blowing agent mixture further comprises n-pentane or isopentane in a molar ratio cyclopentane/iso- or n-pentane of between 80/20 and 30/70."
- "4. Polyurethane or urethane-modified polyisocyanurate foam obtainable by the process defined in any of claims 1 to 3."
- "5. Polyisocyanate-reactive composition containing a blowing agent mixture comprising cyclopentane, characterised in that said blowing agent mixture further comprises isopentane or n-pentane in a

molar ratio cyclopentane/iso- or n-pentane of between 80/20 and 30/70."

Claims 2 and 3 were dependent, directly or indirectly, on Claim 1. Claims 6 and 7 were directly or indirectly dependent on Claim 5.

- II. A first Notice of Opposition was filed against the patent by The Dow Chemical Company on 17 May 1999. Opponent I requested the revocation of the patent in its full scope, relying on Articles 100(a) (lack of novelty and of inventive step), 100(b) and 100(c) EPC.
- III. A second Notice of Opposition was filed against the patent by BAYER AG (now Bayer MaterialScience AG) on 19 May 1999. Opponent II requested the revocation of the patent in its full scope, relying on Articles 100(a) (lack of novelty and of inventive step) and 100(c) EPC.
- IV. By its decision orally announced at the oral proceedings of 4 December 2002 and issued in writing on 8 December 2003 the Opposition Division revoked the patent.
- V. The Opposition Division held in that decision that the opposed patent, while complying with the requirements of Articles 100(b) and (c), did not fulfil those of Article 100(a) EPC. The subject-matter of the main and the two auxiliary requests was considered to lack novelty over the cited prior art.

With regard to the opposition ground under Article 100(c) EPC, the Opposition Division held that - in view of the restricted definition of the co-blowing

agent in granted Claim 1 - the deletion from the claimed subject-matter of equation (I), which according to the original disclosure established a definite relationship between the saturated vapour pressure at T_{use} of the co-blowing agent and its amount (C) in mole%, was not objectionable under Article 123(2) EPC.

VI. On 2 February 2004 the Patent Proprietor (Appellant) lodged an appeal against the decision of the Opposition Division and paid the appeal fee on the same day.

With the Statement setting out the Grounds of Appeal filed on 5 April 2004, the Appellant contested the decision of the Opposition Division. The Appellant maintained as requests in the appeal proceedings the main, first and second auxiliary requests on which the appealed decision had been based.

Independent Claim 1 of each of these requests read as follows:

Main request:

"1. Process for the preparation of a rigid polyurethane or urethane-modified polyisocyanurate foam by reaction of a polyisocyanate composition with a polyfunctional isocyanate-reactive composition under foam-forming conditions in the presence of a blowing agent mixture comprising cyclopentane, characterised in that said blowing agent mixture further comprises isopentane in a molar ratio cyclopentane/isopentane of between 80/20 and 30/70."

First auxiliary request:

"1. Process for the preparation of a rigid polyurethane or urethane-modified polyisocyanurate foam by reaction of a polyisocyanate composition with a polyfunctional isocyanate-reactive composition under foam-forming conditions in the presence of a blowing agent mixture comprising cyclopentane, characterised in that said blowing agent mixture further comprises isopentane in a molar ratio cyclopentane/isopentane of between 80/20 and 30/70 and wherein water is also present."

Second auxiliary request:

"1. Process for the preparation of a rigid polyurethane or urethane-modified polyisocyanurate foam by reaction of a polyisocyanate composition with a polyfunctional isocyanate-reactive composition under foam-forming conditions in the presence of a blowing agent mixture comprising cyclopentane, characterised in that said blowing agent mixture further comprises isopentane in a molar ratio cyclopentane/isopentane of between 80/20 and 30/70 and wherein water is also present in amounts ranging from 0.5 to 3% by weight based on the isocyanate-reactive compound."

The process of Claim 1 of the main request corresponded to that of granted Claim 1 with the limitation that the blowing agent mixture comprised cyclopentane and isopentane (but no longer n-pentane).

The process of Claim 1 of the first auxiliary request corresponded to that of Claim 1 of the main request with the additional feature that water was also present.

The process of Claim 1 of the second auxiliary request corresponded to that of Claim 1 of the first auxiliary request with the limitation of the presence of the water in amounts ranging from 0.5 to 3% by weight based on the isocyanate-reactive compound.

VII. With the letter dated 10 August 2004, Respondent II (Opponent II), requested that the decision of the Opposition Division be confirmed and that the patent be revoked in its entirety for lack of novelty of the subject-matter of all of the Appellant's requests.

VIII. With the letter dated 13 January 2005, Respondent I (Opponent I) requested that the appeal be dismissed and that the patent be revoked in its entirety.

Respondent I contested the decision of the Opposition Division *inter alia* as far as the allowability under Article 123(2) EPC of amendments made before grant was concerned, in particular with regard to the deletion of equation (I) from the claimed subject-matter. In relation to that objection it provided evidence aimed at showing that this deletion had led to an inadmissible extension of the claimed subject-matter beyond the content of the originally filed application.

Respondent I also contested the novelty of the subject-matter of all of the Appellant's requests.

IX. With the letter dated 21 December 2006, the Appellant replaced the requests on file by a new main and eight auxiliary requests. Furthermore it requested the amendment of the description on the basis of Rule 88 EPC by the re-introduction of equation (I) contained in the application as filed but deleted during the examining phase. No arguments were submitted in relation to the objection raised under Article 123(2) EPC.

The subject-matter of Claim 1 of the main request reads as follows:

"1. Process for the preparation of a rigid polyurethane or urethane-modified polyisocyanurate foam by reaction of a polyisocyanate composition with a polyfunctional isocyanate-reactive composition under foam-forming conditions in the presence of a physical blowing agent mixture comprising cyclopentane and isopentane in a molar ratio cyclopentane/isopentane of between 80/20 and 30/70."

The process of this Claim 1 derived from that of granted Claim 1 with the limitation that the blowing agent mixture was a physical blowing agent mixture comprising cyclopentane and isopentane.

The subject-matter of Claims 1 and 3 of the seventh auxiliary request read as follows:

"1. Process for the preparation of a rigid polyurethane or urethane-modified polyisocyanurate foam by reaction of a polyisocyanate composition

with a polyfunctional isocyanate-reactive composition under foam-forming conditions in the presence of a physical blowing agent mixture consisting of technical grade or pure grade cyclopentane and isopentane in a molar ratio cyclopentane/isopentane of between 80/20 and 30/70, wherein the polyurethane is not prepared by reacting at an NCO index of 1.25 VORANATE M220 with a polyah1 composition containing an oxyethylene-oxypropylene adduct of phenol/formaldehyde resin, an aromatic polyester and oxypropylene adduct of ethylene diamine in the presence of 1.2 wt% water using cyclopentane/isopentane mixture in a molar ratio 81/19, 61/39 or 41/59, and wherein the physical blowing agent is not a mixture consisting of 1 to 50 weight% of cyclopentane with n- and/or iso-pentane, the saturated vapour pressure of isopentane in bar at T_{use} (v.p.) complying with the following equation (I)

$$v.p \geq 0.7 \text{ bar} \times T_{use}/298K \times C/100 \quad (I)$$

wherein C is the mole% of said co-blowing agent in gaseous form on the total blowing agent mixture in the gaseous phase after foaming and T_{use} is the temperature in K at which the foam is used."

- "3. Process according to any one of the preceding claims, wherein water is present in amounts ranging from 0.5 to 3% by weight based on the isocyanate-reactive compound."

X. With the letter dated 25 January 2007, Respondent I contested the admissibility of these latter filed auxiliary requests on the ground that their filing amounted to an abuse of procedure, in particular, as they were not accompanied by any explanation. Respondent I also objected to the correction requested under Rule 88 EPC.

Furthermore it reiterated its objection under Article 100(c) in view of the deletion of equation (I) from the claimed subject-matter. Additionally, it contested the novelty and the inventive step of the claimed subject-matter.

XI. With the letter dated 26 January 2007 Respondent II objected to the latest requests of the Appellant under Article 123(2) and (3) EPC. It also contested the novelty and inventive step of the claimed subject-matter.

XII. With the letter dated 26 February 2007 the Appellant submitted a new set of requests replacing those previously filed. The new set comprised a main and five auxiliary requests, some of which re-introduced the possible use of n-pentane as co-blowing agent. The Appellant also provided arguments relating to the issues of the allowability of the amendments and of lack of novelty.

Claim 1 of the main request reads as follows:

"1. Process for the preparation of a rigid polyurethane or urethane-modified polyisocyanurate foam by reaction of a polyisocyanate composition

with a polyfunctional isocyanate-reactive composition under foam-forming conditions in the presence of a physical blowing agent mixture consisting of cyclopentane and isopentane in a molar ratio cyclopentane/isopentane of between 80/20 and 30/70, wherein water is present in amounts ranging from 0.5 to 3% by weight based on the isocyanate-reactive compound."

XIII. On 28 March 2007 oral proceedings were held before the Board.

At these proceedings the Appellant submitted new auxiliary requests 1 to 3 replacing the auxiliary requests on file.

Claim 1 of the first auxiliary request corresponded to Claim 1 of the second auxiliary request submitted on 26 February 2007 with the amendment that the co-blowing agent was limited to isopentane. This claim reads as follows:

"1. Process for the preparation of a rigid polyurethane or urethane-modified polyisocyanurate foam by reaction of a polyisocyanate composition with a polyfunctional isocyanate-reactive composition under foam-forming conditions in the presence of a physical blowing agent mixture consisting of cyclopentane and isopentane in a molar ratio cyclopentane/isopentane of between 80/20 and 30/70, wherein water is present in amounts ranging from 0.5 to 3% by weight based on the isocyanate-reactive compound,

wherein the polyurethane is not prepared by reacting at an NCO index of 1.25 a crude methylene diphenylisocyanate with a polyahl composition containing an oxyethylene-oxypropylene adduct of phenol/formaldehyde resin, an aromatic polyester and oxypropylene adduct of ethylene diamine in the presence of 1.2 wt% water using cyclopentane/iso-pentane in a molar ratio 61/39, or 41/59, and wherein the physical blowing agent does not consist of 1 to 50 weight% of cyclopentane with n- and/or iso-pentane, the saturated vapour pressure of isopentane in bar at T_{use} (v.p.) complying with the following equation (I)

$$v.p \geq 0.7 \text{ bar} \times T_{use}/298K \times C/100 \quad (I)$$

wherein C is the mole% of said co-blowing agent in gaseous form on the total blowing agent mixture in the gaseous phase after foaming and T_{use} is the temperature in K at which the foam is used."

Claim 1 of the second auxiliary request corresponded to Claim 1 of the seventh auxiliary request submitted on 21 December 2006 (see paragraph IX above).

Claim 1 of the third auxiliary request corresponded to a combination of Claims 1 and 3 of the seventh auxiliary request submitted on 21 December 2006 (see paragraph IX above).

Furthermore, it requested the referral of the following four questions to the Enlarged Board of Appeal:

1. Is an appellant required to submit set of claims with the statement of appeal that take into account an issue that was decided in his favour in the first instance decision.

2. During appeal procedure what is the time limit during which a party is expected to react to observations of the other party if no specific time limit is set by the board.

3. What is the ultimate deadline to submit set of claims prior to the oral proceedings. In appeal procedures it has been standard practice to allow claims submitted 1 month prior to oral proceedings.

4. Can a technical board of appeal reject new claims to which the opponent had the opportunity to reply and in fact actually replied.

Respondent I submitted a new document (D15: US-A-5 866 626) in relation to the issue of purity of cyclopentane.

XIV. The arguments put forward by the Appellant in its written submissions and at the oral proceedings can be summarized as follows:

- The equation (I) was a feature with no technical contribution to the solution of the technical problem and could therefore be deleted from the claimed subject-matter.

- The essential feature was the molar ratio cyclopentane/isopentane (application: page 11, first paragraph).

- The use of equation (I) in the originally claimed subject-matter served as a rule of thumb (ie, an empirical rule) for the calculation of the amount as co-blowing agents of a wide range of alternative compounds, including fluoro hydrocarbons.

- The limitation in the claimed process to the use as co-blowing agent of isopentane, which should be present at a specific molar ratio in relation to the (main) blowing agent cyclopentane, rendered the equation redundant with the consequence that its deletion did not contravene the requirements of Article 123(2) EPC.

- The technical evidence submitted by Respondent I (a graphical representation of equation (I)), which related to the variation of vapour pressure with temperature - see paragraph 4.3 below) should be disregarded because it was incorrect. The reason was that the curve C_{\max} was not calculated according to equation (I), which required the (now obligatory) presence of water as a chemical co-blowing agent to be taken into account (see page 4, lines 23-25 of the application as filed).

- This was because the term C in equation (I), and consequently the term C_{\max} , was defined as "the mole% of the co-blowing agent in gaseous form on the total blowing agent mixture in the gaseous phase after foaming", meaning that the CO_2 generated under the action of water became part of the gaseous phase.

- The factor of 0,7 bar in equation (I) was an empirical correction factor calculated for the whole mixture of blowing agents, including water, and not for the exclusive mixture of cyclopentane/isopentane. This factor would have another value if water was excluded from the blowing agent mixture.

- If Respondent I had taken water into account in its evidence, the result would have been that the claimed molar ratio of cyclopentane/isopentane would have fulfilled the limitations of equation (I).

- T_{use} was not an essential feature of the claimed subject-matter, since it was a use feature of the foam and thus irrelevant for the foam preparation process.

- The main request should be admitted, since it was filed in good faith one month before the oral proceedings and since it aimed at overcoming objections raised by the Respondents.

- Likewise the auxiliary requests should be admitted since they were filed as a reply to objections raised by the Respondents and were based on previously filed requests. Though these requests had been withdrawn, they still were part of the file.

- The disclaimers comprised by the subject-matter of some of the auxiliary requests were based on relevant state of the art and had been part of requests which had been submitted before the Opposition Division.

- The subject-matter of Claim 1 of the main request was clear, because the expression "consisting of cyclopentane and isopentane" referred to pure products, which found support in the description (page 3, lines 18-19 and page 4, lines 32-33).
- The four questions were requested to be referred to the Enlarged Board of Appeal because there was no uniform application of the law by the various Boards of Appeal with regard to the issue of admissibility of late filed requests in appeal proceedings.
- An apportionment of costs in favour of Respondent I should not be allowed since the auxiliary requests filed on 21 December 2006 were submitted in good faith as a response to the objections previously raised by the Respondents.

XV. The Respondents essentially argued as follows:

- The deletion of equation (I) amounted to a contravention of Article 123(2) EPC. The submitted technical evidence showed that the limitation of the scope of claim 1 by the restriction of the co-blowing agent to isopentane and of the molar ratio cyclopentane/isopentane to between 80/20 and 30/70 did not render equation (I) redundant.
- Equation (I) related only to physical blowing agents, which meant that a possible gas contribution of the chemical blowing agent water should not have been taken into consideration.

- The cyclopentane/isopentane molar ratio of 80/20 was exclusively disclosed in combination with the specific T_{use} of $+10^{\circ}C$, and its generalisation to any T_{use} contravened the requirements of Article 123(2) EPC.

- No arguments should be based on example 1 of the patent in suit which, after the limitation of the claimed scope to a blowing agent mixture "consisting of" cyclopentane and isopentane, was no longer part of the claimed invention.

- The limitation of the blowing agent mixture by the expression "consisting of cyclopentane and isopentane" introduced a lack of clarity even if one accepted them as being technically pure, ie 98% grade substances, *inter alia* because this degree of purity still allowed the presence of n-pentane.

- The application as originally filed did not disclose pure grade but rather technical grade cyclopentane and therefore the claims, which related to pure grade cyclopentane, were open to objection not only under Article 123(2) EPC but also under Article 123(3) EPC.

- The late filed main request should not be admitted since not only had no justification for the late filing been provided but also no support for the amendments had been given. The request not only failed to overcome the previously raised objections but also introduced new ones.

- The auxiliary requests, all filed at the oral proceedings, should not be admitted, since their late submission constituted an abuse of procedure. The issue of Article 123(2) EPC had been raised in the written phase of the appeal proceedings and a negative outcome at the oral proceedings could have been foreseen.
- The subject-matter of the auxiliary requests was complex and could not be examined at the oral proceedings.
- Even if the subject-matter of the second and third auxiliary requests was based on the subject-matter of the seventh auxiliary request filed on 21 December 2006, that request had been withdrawn on 26 February 2007 and consequently there had been no need for the Respondents to have considered it in preparation for the oral proceedings before the Board.
- The auxiliary requests were not *prima facie* admissible since they raised other objections having regard to the disclaimers they contained.
- The filing of nine requests by the Appellant on 21 December 2006 caused unreasonable costs to be incurred by Respondent I, in particular because those requests were later withdrawn on 26 February 2007.
- The questions for referral to the Enlarged Board of Appeal did not deal with any particular point of law but related to a point of practice. There were no

contradictory decisions with respect to the admissibility of late filed requests.

XVI. The Appellant requested that:

1. The decision under appeal be set aside.
2. The patent be maintained on the basis of the main request filed with letter dated 26 February 2007, or alternatively on the basis of the first, second or third auxiliary requests filed during the oral proceedings.
3. Alternatively, that the four questions in the statement submitted during the oral proceedings be referred to the Enlarged Board.

XVII. The Respondents I and II requested that the appeal be dismissed.

Respondent I also requested that an apportionment of costs be made in its favour to reflect the time spent in considering the Appellant's submissions of 21 December 2006.

Reasons for the Decision

1. *Admissibility of the new requests*

1.1 The main request

The Appellant filed a new main request with its letter of 26 February 2007. This request was based on the

second auxiliary request dealt with by the impugned decision but had been changed such that the subject-matter of Claim 1 was restricted. The restriction concerned the definition of the blowing agent mixture, which was now limited to a **physical** blowing agent mixture **consisting of** cyclopentane/isopentane (emphasis by the Board). As the amendments were made in an effort to overcome the previously raised objection under Article 123(2) EPC, the Board considered the main request *prima facie* admissible under Rule 57a EPC and Article 10b RPBA.

1.2 The auxiliary requests

On the contrary, the Board did not admit into the procedure the auxiliary requests 1 to 3 filed at the oral proceedings before the Board. The Board exercising its discretionary power under Article 10b RPBA considered that the complexity of the new subject-matters, their submission at an extremely late stage of the proceedings and the principle of procedural economy together amounted to an insurmountable obstacle to the admissibility of these late filed requests.

In particular, with regard to the first auxiliary request, although it was based on the second auxiliary request filed on 26 February 2007, ie one month before the oral proceedings, the Board was unwilling to admit it because it reintroduced subject-matter, namely the possible use of n-pentane as co-blowing agent, which had been excluded from the subject-matter claimed in the final requests before the Opposition Division and maintained throughout the entire appeal proceedings up to this very late stage.

Concerning the second and third auxiliary requests, while the Board acknowledges that they were based on the seventh auxiliary request filed on 21 December 2006, the latter was filed almost three years after the appeal (3 February 2004) and two years after the filing of observations by Respondents I and II in which they stated that they maintained their objection under Article 123(2) EPC (15 January 2005 and 13 August 2004 respectively).

However, the Board had also to consider that the seventh auxiliary request, like all requests filed on 21 December 2006, had in the meantime been unequivocally withdrawn by the letter dated 26 February 2007.

Consequently, the Board, in agreement with the Respondents' arguments, considered that by reinstating previously withdrawn requests at the oral proceedings the Appellant took the Respondents (and the Board) by surprise.

Additionally, the Board considered that the new auxiliary requests were not *prima facie* admissible because the insertion of the disclaimers into the claims would not only inevitably have required the consideration of their proper basis having regard to the prior art concerned but would also have involved going through the complex issues of priority, novelty and clarity; this would have put an unreasonable burden on the Respondents, would have required an adjournment of the oral proceedings and would thus have led to an unjustified delay of the whole proceedings.

2. *Referral to the Enlarged Board of Appeal*

The Appellant requested the referral of four questions to the Enlarged Board of Appeal.

Article 112(1) EPC stipulates that, *inter alia* following a request from a party to an appeal, the Board of Appeal shall refer a question to the Enlarged Board of Appeal if it considers that a decision is required in order to ensure uniform application of the law, or if an important point of law arises.

In the present case the Board refused the Appellant's request for referral because neither of these conditions is satisfied. Thus, the Appellant has not demonstrated, for example by reference to other, contradictory decisions of the Boards of Appeal, that a decision of the Enlarged Board of Appeal is required to ensure uniform application of the law. Nor has the Appellant identified an important point of law to be referred to the Enlarged Board.

Furthermore, the Board notes that the procedural issues referred to in the Appellant's questions are dealt with in the Rules of Procedure of the Boards of Appeal. The Board refers in particular to Article 10b of the RPBA (version consolidating the amendments published in OJ EPO 1983,7; OJ EPO 1989, 361; OJ EPO 2000, 316, OJ EPO 2003, 61 and OJ 2004, 541) which stipulates that amendments to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the Board's discretion.

Thus the admission of such late-filed requests is a matter for the discretion of the Boards, which examine each case on its merits and which decides whether or not in the particular circumstances amendments to claims, and by extension new requests, are admissible. In the present situation the Board has exercised its discretion in agreement with the well-established jurisprudence of the Boards of Appeal (cf. Case Law of the Boards of Appeal of the EPO, 5th edition, VII.D.14.1 and 14.2, pages 640-649).

3. *Clarity of the main request*

- 3.1 The subject-matter of Claim 1 of the main request fulfils the requirements of Article 84 EPC.

Compared with the subject-matter of granted Claim 1, the subject-matter of this claim makes a clear distinction between physical and chemical blowing agents. Thus cyclopentane and isopentane, organic compounds which do not undergo any chemical modification during the foaming process but only vaporise, are physical blowing agents while water, which by reaction with the polyisocyanate forms carbon dioxide, is a chemical blowing agent (page 4, lines 23-24).

Additionally, the claimed subject-matter specifies that the physical blowing agent mixture consists of cyclopentane and isopentane.

- 3.2 Contrary to the arguments of the Respondents, the Board holds that the expression "consisting of cyclopentane and isopentane" is clear from its wording and would be

considered by the skilled reader to relate to essentially pure products such as those exemplified on page 8, lines 34-35 (cyclopentane B: a 98% grade cyclopentane from Shell; isopentane: a 98% grade isopentane from Janssen).

Since the 98% grade products are commercially available from Shell and Janssen, any objection on the grounds of lack of sufficiency of disclosure with regard to these essentially pure products is baseless and document D15 thus irrelevant.

The Board therefore concludes that the claimed subject-matter is clear.

4. *Article 123(2) EPC*

4.1 The definition of the process for which protection was sought in the originally filed application (claim 1; page 2, lines 17-26) contained the technical feature of the saturated vapour pressure of the co-blowing agent in bar at T_{use} (v.p.), which saturated vapour pressure complied with equation (I):

$$v.p \geq 0.7 \text{ bar} \times T_{use}/298K \times C/100 \quad (I)$$

The omission of this feature, which was already missing from Claim 1 as granted and is also missing from Claim 1 of the operative main request, amounts to an extension beyond the content of the originally filed application and thus contravenes the requirements of Article 123(2) EPC.

4.2 The Board is not persuaded by the arguments of the Appellant that by the restriction of co-blowing agents to isopentane and to a molar ratio cyclopentane/isopentane of between 80/20 and 30/70 equation (I) becomes redundant because, as set out below, the Appellant's assertion, that this restricted definition of the co-blowing agent is narrower in scope than the definition of equation (I), is at variance with the factual situation.

In order to arrive at this conclusion the Board has relied on the evidence submitted by Respondent I on 13 January 2005.

4.3 This technical evidence is illustrated by Figure 1 set out below. This Figure shows the variation of the saturated vapour pressure of isopentane (left axis) and of the mol % of isopentane (right axis) as a function of temperature.

The area between 20 and 70 mol % of isopentane corresponds to the amount of isopentane that can be used as a co-blowing agent in accordance with the subject-matter of Claim 1 of the main request.

The area below the curve C_{\max} is the amount of isopentane that can be used as a co-blowing agent in compliance with equation (I).

The Board notes that though the two areas overlap in the hatched area of the chart, there is a part of the area between the claimed mol% of isopentane which lies above the curve C_{\max} and which does not comply with

equation (I), while it complies with the subject-matter of Claim 1 of the main request.

The Board thus concludes that the subject-matter of Claim 1 of the main request extends beyond the content of the originally filed application and therefore contravenes the requirements of Article 123(2) EPC.

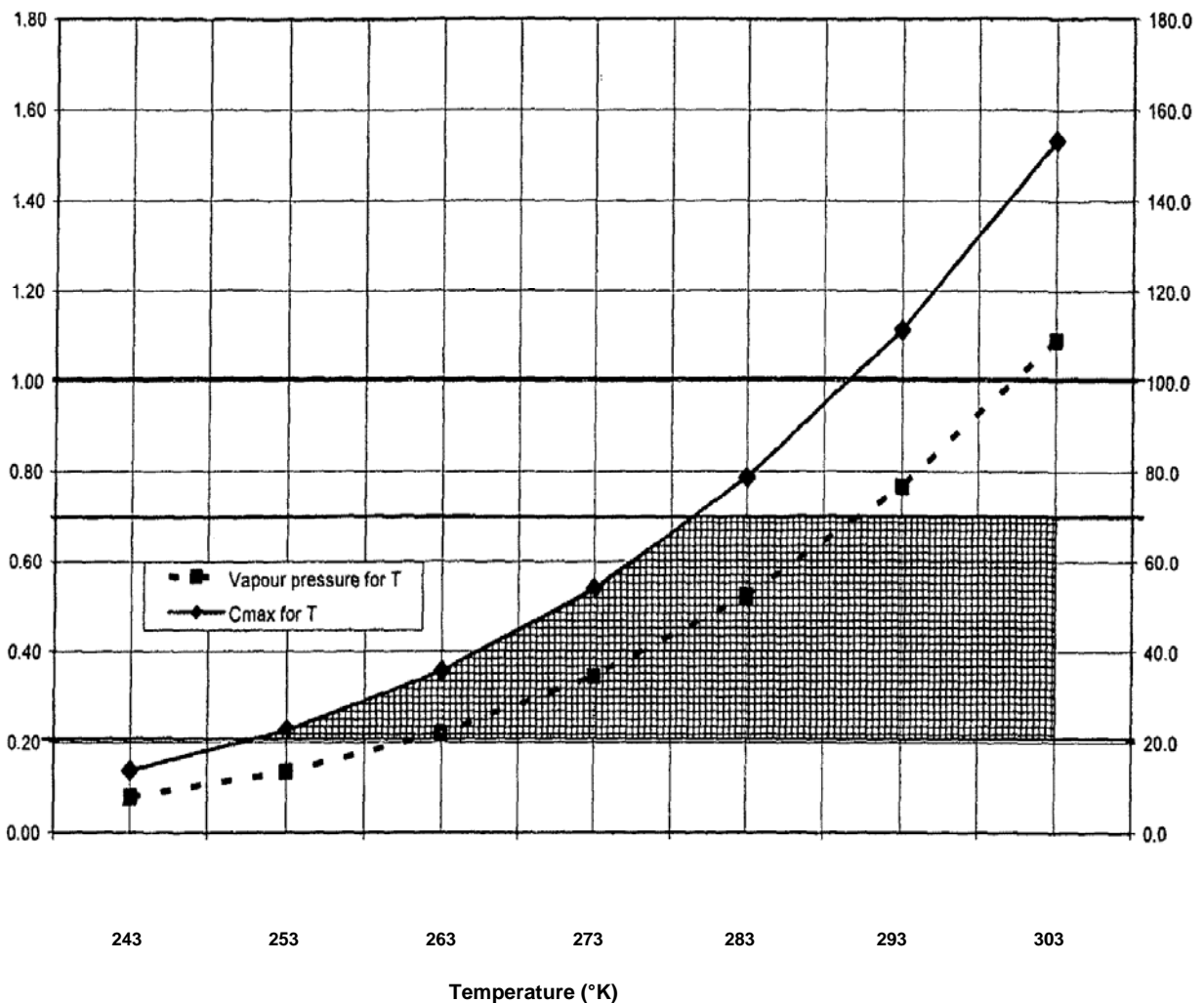


Figure 1

4.4 In view of the persuasive character of this evidence and in the absence of counter-evidence the Board is unable to agree with the Appellant's allegation that this technical evidence of Respondent I is wrong.

Furthermore, the Board does not agree with the Appellant's argument that the curve C_{\max} was not correct because the water which was present had not been recognised as a co-blowing agent, with the consequence that on the one hand its contribution to the calculation of C_{\max} had not been taken into account and on the other hand the correction factor of 0.7 bar in equation (I) had not been calculated for a co-blowing agent consisting exclusively of isopentane.

With regard to the constituents of the total blowing agent mixture in the gaseous phase after foaming, the Board remarks that the application as originally filed refers to blowing agents such as cyclopentane and co-blowing agents such as organic compounds or noble gases (page 2, lines 17-21, 32-35; page 3, line 4; page 4, lines 4-5), which are all physical blowing agents. Indeed, the description makes a conscious distinction between physical blowing agents and water, which is a chemical blowing agent and which is not mentioned as having to be taken into account for the purposes of equation (I) with regard to its contribution to the total blowing agent mixture in the gaseous phase after foaming.

In accordance with the above, the correction factor in equation (I) of 0.7 bar must be considered as being specifically applicable to the physical co-blowing agent.

- 4.5 Furthermore, the Board considers that the technical feature "the molar ratio cyclopentane/isopentane of between 80/20 and 30/70", though numerically finding support in the originally filed application (page 5,

line 31), is disclosed exclusively in combination with a specific T_{use} , namely that of 10°C , which is the average operation temperature of a refrigerator (page 2, lines 3-4).

However, the specific T_{use} is not comprised in the claimed subject-matter and the Board therefore concludes that removing the cyclopentane/isopentane molar ratio from its context, ie without its combination with a specific T_{use} , results in an unallowable generalisation as it may now apply to any T_{use} . This amounts to the extension of the originally filed subject-matter, which contravenes the requirements of Article 123(2) EPC.

- 4.6 The Board does not agree with the Appellant when it argues that the T_{use} , which is a use feature of the foam, is irrelevant for the foam preparation process, an argument which leads to the assertion that its omission from the subject-matter of Claim 1 does not contravene the requirements of Article 123(2) EPC.

Contrary to the Appellant's argument, the Board considers that the claimed process is directed to the preparation of a foam for a specific utility which means that the feature of T_{use} is essential, as it defines the product specially designed for this purpose.

- 4.7 As the subject-matter of Claim 1 of the main request does not find support in the originally filed application, the main request does not fulfil the requirements of Article 123(2) EPC.

5. *Apportionment of costs*

Respondent I has requested the apportionment of its costs under Article 104 EPC and Article 11a of RPBA because it had had to invest a considerable amount of time and effort in considering the numerous requests submitted by the Appellant on 21 December 2006, which requests were then withdrawn with the letter of 26 February 2007. That time and effort had thus been rendered useless. Respondent I considered such tactics to be an abuse of procedure.

While the Board understands the attitude of Respondent I, the Appellant's reaction to the objections raised by the Respondents submitted with their letters of 25 and 26 January 2007 respectively does not in the Board's judgment amount to an abuse. Indeed, the conduct of the Appellant, who by withdrawing the contested requests and by replacing them with other requests was apparently trying to overcome the objections which had been raised, is not as such objectionable; this conduct is to be considered as a legitimate defence of its case.

Order

For these reasons it is decided that:

1. The appeal is dismissed.
2. The request to refer the above questions to the Enlarged Board of Appeal is refused.
3. Respondent I's request for an apportionment of costs is refused.

The Registrar:

The Chairman:

C. Moser

P. Kitzmantel