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**Datasheet for the decision
of 12 November 2019**

Case Number: T 0343/16 - 3.3.03

Application Number: 07253139.5

Publication Number: 2028122

IPC: B65D41/04, C08K5/00, C08L23/10

Language of the proceedings: EN

Title of invention:
Article comprising polypropylene composition

Patent Proprietor:
Borealis Technology Oy

Opponents:
Total Research & Technology Feluy
W.R. Grace & Co.-Conn.
Basell Poliolefine Italia S.r.l.

Relevant legal provisions:
EPC Art. 54, 56, 108
EPC R. 99(2)
RPBA Art. 12(2)

Keyword:

Novelty - (yes)

Inventive step - (yes)

Admissibility of appeal- Yes - reference to statement of grounds of other appellant permissible

Decisions cited:

G 0009/91



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0343/16 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 12 November 2019

Appellant: Total Research & Technology Feluy
(Opponent 1) Zone Industrielle C
7181 Seneffe (BE)

Representative: Raboin, Jean-Christophe
Total Research & Technology Feluy
Zone Industrielle C
7181 Seneffe (BE)

Appellant: Basell Poliolefine Italia S.r.l.
(Opponent 3) Via Pontaccio 10
20121 Milano (IT)

Representative: Colucci, Giuseppe
Basell Poliolefine Italia S.r.l.
Intellectual Property
Piazzale G. Donegani 12
44122 Ferrara (IT)

Respondent: Borealis Technology Oy
(Patent Proprietor) P.O. Box 330
06101 Porvoo (FI)

Representative: Dehns
St. Bride's House
10 Salisbury Square
London EC4Y 8JD (GB)

Party as of right: W.R. Grace & Co.-Conn.
(Opponent 2) 7500 Grace Drive
Columbia, MD 21044 (US)

Representative: Marsman, Hermanus Antonius M.
V.O.
Vereenigde Octrooibureaux N.V.

Carnegieplein 5
2508 DH The Hague (NL)

Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
15 December 2015 concerning maintenance of the
European Patent No. 2028122 in amended form.**

Composition of the Board:

Chairman O. Dury
Members: M. C. Gordon
 C. Brandt

Summary of Facts and Submissions

I. The appeal lies from the interlocutory decision of the opposition division posted on 15 December 2015 according to which European patent number 2 028 122 could be maintained in amended form on the basis of the auxiliary request (I), filed during the oral proceedings before the opposition division.

II. The patent was granted with a set of 13 claims, whereby claim 1 read as follows:

"A cap or closure comprising a polypropylene composition, wherein said composition comprises:

- (i) a random propylene ethylene copolymer having an ethylene content of 3.3-7 %wt, and
- (ii) an additive selected from an antistatic agent, an antioxidant, an acid scavenger and a nucleating agent"

Claims 2-11 were dependent claims. Claim 12 was directed to a process for making a cap or closure comprising moulding a polypropylene composition defined as in claim 1 and claim 13 to the use of a corresponding composition for the manufacture of a cap or closure.

III. Three oppositions were filed against the patent whereby the grounds pursuant to Article 100(a) EPC (lack of novelty, lack of inventive step) and Article 100(b) EPC were invoked.

The following documents, *inter alia* were cited in support of the oppositions:

D12: WO-A-2007/071445;
D14: EP-A-1 170 329;
D18: US-B-6 573 334;
D34, D35: JP 2004-182955 A1 and machine translation thereof;
D36, D37: JP 7-238204 A1 and machine translation thereof;
D38: EP-A-1 801 157 (priority document of D12).

IV. The decision was based *inter alia* on a main request and an auxiliary request (I) filed during the oral proceedings before the opposition division, of which only the latter is relevant for the present decision.

Claim 1 of auxiliary request (I) differed from claim 1 of the patent as granted in that component (i) was defined as

"a multimodal random propylene ethylene copolymer having an ethylene content of 3.3-7 %wt"

and component (ii) was defined as follows:

"an additive selected from an antistatic agent, an antioxidant, an acid scavenger and a non polymeric nucleating agent wherein said non polymeric nucleating agent must be present."

Regarding novelty, an objection invoking a public prior use was found to be unproven.

Novelty with respect to other documents invoked, in particular D18 and D34/D35, was held to be given due to the fact that at least one feature - either caps/closures, or the nature of the polymer - was lacking.

Regarding inventive step the subject-matter claimed

differed from closest prior art D12 by the presence of the non-polymeric nucleating agent, rather than polymeric nucleating agents. The closest prior art taught that non-polymeric nucleating agents were neither desirable nor necessary in particular for food applications. There was accordingly no incentive to modify the compositions of the closest prior art by replacing the nucleating agents by the now defined non-polymeric nucleating agents. Hence an inventive step was recognised.

- V. Opponents 1 (Total Research and Technology Feluy) and 3 (Basell Poliolefine Italia S.r.l.) filed notices of appeal and both requested that the decision of the opposition division be set aside and the patent be revoked. Opponent 3 (hereinafter "appellant 2") submitted a statement of grounds of appeal. Opponent 1 with a submission of 25 April 2016 referred to its notice of appeal and in support of its request that the patent be revoked, invoked the statement of grounds of appeal of appellant 2, which was stated to be incorporated by reference.
- VI. The respondent (patent proprietor) replied to the appeals and disputed that opponent 1 had validly filed an appeal. It was further requested that the appeal(s) be dismissed (main request) or, alternatively, that the patent be maintained in amended form on the basis of one of auxiliary requests (I)-(VIII) submitted therewith.
- VII. The Board issued a summons to attend oral proceedings and a communication in which, *inter alia*, it was stated that the appellant status of opponent 1 would have to be established.

VIII. Oral proceedings were held before the Board on 12 November 2019.

The Board announced its decision that the appeal by Opponent 1 had been validly filed and that opponent 1 consequently had appellant status.

At the start of the oral proceedings the appellant 2 withdrew the objections pursuant to Articles 83/100(b) and 84 EPC made in writing.

IX. The arguments of opponent 1 and appellant 2 in respect of the main request can be summarised as follows:

(a) Admissibility of the appeal of opponent 1

Opponent 1 stated that its appeal should be considered admissible. Detailed legal arguments in support of this position were not advanced.

(b) Novelty

The subject-matter of claim 1 was anticipated by the disclosures of D14, D18, D34/35 and D36/D37.

(c) Inventive step

Closest prior art was D12/D38, whereby in the following, page and line references are those of D38.

The document related to compositions which could be employed *inter alia* for closures and caps. The subject-matter claimed was distinguished from the disclosure of D38 by the nature of the nucleating agent, i.e. non-polymeric whereas D38 employed polymeric agents.

D38 itself taught such non-polymeric agents as alternatives.

Regarding organoleptics the data available - insofar as comparable - showed no difference between the two types of nucleating agent. It was however to be assumed that in the case of the polymeric agents of D38 the problem of organoleptics would be significantly less than in the case of the non-polymeric agents of the patent in suit due to the reduced tendency to migration and blooming as explicitly followed from the teaching of D38. In any case the organoleptic tests were rather subjective and not very sensitive, even accepting that they could be considered as being standardised to any extent.

There was thus no evidence which could demonstrate a technical effect.

Hence the objective problem had to be formulated as the provision of alternative compositions for caps and closures.

The problem was solved by replacing the polymeric nucleating agents of D38 by non-polymeric alternatives.

This solution was explicitly taught by D38 which explained that non-polymeric nucleating agents existed but were associated with certain disadvantages in terms of blooming, migration etc..

However the solution to the objective problem, i.e. using non-polymeric nucleating agents followed

necessarily and inevitably from the teaching of D38 - these were the sole alternatives to polymeric nucleating agents. Thus in effect the solution existed in merely employing the only known alternative to the nucleating agents of the closest prior art notwithstanding the known disadvantages thereof. This was not inventive.

Furthermore the recommendation away from low molecular weight nucleating agents in D38 was not justified or supported by any evidence or data, nor were any specific disadvantages of such additives compared to the polymeric variants indicated.

X. The arguments of the respondent in respect of the main request can be summarised as follows:

(a) Admissibility of the appeal of opponent 1

The submissions of opponent 1, in particular the reference to the statement of grounds of appeal of appellant 2 did not satisfy the corresponding requirements of the EPC or of the RPBA. This position was supported by the Case Law. Thus the appeal of opponent 1 was not admissible.

(b) Novelty

None of the cited documents disclosed all features of the claimed subject-matter in combination.

(c) Inventive step

D12/D38 represented the closest prior art. The subject-matter claimed was distinguished therefrom by the nature of the nucleating agent, i.e. being

non-polymeric and furthermore by the restriction to caps or closures.

A problem inherent to caps and closures in particular for use in the food and drinks industry was the presence of leachables which could impair the taste and odour of the contents. Such contaminants could arise as a result of degradation or from additives employed to impart certain properties. Such additives were frequently volatile organic compounds (VOC). Typical of such performance enhancing additives were nucleating agents which were required for processability.

The claimed invention offered a solution to the problem of providing alternative caps and closures which satisfied the requirements, in particular in terms of presence of VOCs and organoleptic properties.

Contrary to the position of the appellants, D38 did not teach the non-polymeric nucleating agents as alternatives to polymeric nucleating agents but explicitly taught against employing them. The examples of the patent in suit and D38 were broadly similar and could be compared. It was acknowledged that a perfect comparison was not possible since the compositions of D38 required modification of the catalyst with vinyl cyclohexane (VCH) as the polymeric nucleating agent. Such a step was neither necessary nor possible in the case of the claimed compositions with the non-polymeric nucleating agents. Thus to the extent that the examples of the patent and those of the prior art diverged, this divergence was a direct consequence of the distinguishing feature.

The tests carried out did not reveal any problems with migration, blooming or generation of organoleptics, contrary to what would be expected based on the teachings of D38. The findings of the examples of the patent directly contradicted the teachings of paragraph [0029] of D38 which warned of contamination problems with non-polymeric nucleating agents. This outcome had to be considered as unexpected on the basis of the teachings of the prior art.

The arguments in respect of the reliability of the organoleptic level put forward at the oral proceedings before the Board had not been advanced in writing and thus were new. These were standard tests, based on defined procedures and known in the art.

Thus the claimed subject matter represented the result of proceeding contrary to the explicit teaching and recommendations of D38. The results obtained likewise were directly contrary to what would be expected based on the closest prior art. The reason for the good results were not understood. It was presumed to be associated with the specific constitution of the polymer as defined in the claims. However it was not necessary in order for an inventive step to be recognised to provide an explanation for the observed results.

- XI. The opponent 1 (in writing) and appellant 2 requested that the decision under appeal be set aside and that the European patent No. 2028122 be revoked. Appellant 2 withdrew the objections regarding Articles 84 and 83 EPC submitted in writing.

Opponent 1 (in writing) further requested that auxiliary requests (I) to (VIII) filed with the reply to the statement of grounds of appeal not be admitted into the proceedings.

- XII. The respondent requested that the appeal of opponent 1 be rejected as inadmissible and that the appeal of appellant 2 be dismissed, or, alternatively that the patent be maintained on the basis of any of auxiliary requests (I) to (VIII) filed with the reply to the statement of grounds of appeal.

Reasons for the Decision

1. Admissibility of the appeal of opponent 1
 - 1.1 The letter of 25 April 2016 of opponent 1 did not contain any indication or discussion of grounds why the decision under appeal should be set aside. Rather, the letter was restricted to the following submission:

"Reference is made to the grounds of appeal as filed by Basell Poliofetine Italia Srl on 15.04.2016, which are incorporated in its entirety here by reference. Those grounds are already on file and are thus not submitted herewith again."
 - 1.2 The respondent contested the admissibility of the appeal of opponent 1. Reference was made to the case law of the Boards of Appeal according to which a statement of grounds of appeal referring generally to submissions made at first instance, as a rule, cannot be considered sufficient under Article 108, third sentence, EPC. The Boards instead required that the

appellant explain in detail why the decision under appeal was incorrect and why the contested decision should be set aside. The reference to another party's submissions were likewise considered by the respondent to be unacceptable, even if these were submissions relating directly to the appeal.

- 1.3 The legal basis for the assessment whether a statement of grounds of appeal complies with the requirements for the admissibility of an appeal can be found in the following provisions:

Article 108, 3rd sentence, EPC:

"Within four months of notification of the decision, a statement setting out the grounds of appeal shall be filed in accordance with the Implementing Regulations,"

Rule 99(2) EPC:

"In the statement of grounds of appeal the appellant shall indicate the reasons for setting aside the decision impugned, or the extent to which it is to be amended, and the facts and evidence on which the appeal is based,"

Article 12(2) RPBA:

"The statement of grounds of appeal and the reply shall contain a party's complete case. They shall set out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld, and should specify expressly all the facts, arguments and evidence relied on. All documents referred to shall be

(a) attached as annexes insofar as they have not already been filed in the course of the grant, opposition or appeal proceedings or produced by the Office in said proceedings;

(b) filed in any event to the extent that the Board so directs in a particular case."

- 1.4 Firstly, these provisions do not contain any explicit or implicit indication that references to statement of grounds of appeal filed by other (co-)appellants are inadmissible or not allowed. Rather, considering that no objections against the admissibility of the appeal filed by Basell Poliofefine Italia S.r.l. (appellant 2 in the present proceedings) have been raised by the respondent, the Board finds that the requirements for a statement of grounds of appeal to be in accordance with the provisions cited above are fulfilled in view of said statement (see point 1.1 above) by opponent 1.
- 1.5 By indicating that "the grounds of appeal as filed by Basell Poliofefine Italia Srl on 15 April 2016 ... are incorporated in its entirety here by reference" it is clear that what is submitted in the grounds of appeal of appellant 2 should equally be regarded as "the reasons for setting aside the decision impugned and the facts and evidence on which the appeal is based" (Rule 99(2) EPC) in the appeal of opponent 1 and that the same should apply to the respective "reasons why it is requested ... relied on" (Article 12(2) RPBA) as submitted in the statement of grounds of appellant 2.
- 1.6 Contrary to the submission of the respondent, the case law of the Boards of Appeal according to which a statement of grounds referring generally to submissions made at first instance, as a rule, cannot be considered sufficient under Article 108, third sentence, EPC is not applicable to the present case. As set out in decision G 9/91 (section 18 of the reasons), it is the primary object of the appeal proceedings to review the decision under appeal in a judicial manner. This cannot

be achieved by merely referring to submissions made at first instance without actually dealing with, or entering into a discussion of, the reasons given in the decision under appeal by the opposition division for arriving at its decision and thus leaving it entirely up to the board and the respondent to speculate in what respect the appellant might consider the decision under appeal to be defective, and then develop responses to these conjectured arguments.

As indicated above, such a factual and legal situation is not comparable to the case at issue when an opponent filing an appeal against a decision of the opposition division refers to the statement of grounds of appeal filed by another opponent/appellant and which is not objected as not being admissible. The respondent's submission that a referral to another party's submissions had to be seen as equally unacceptable, even if these were appeal submissions is thus not convincing and cannot be followed.

1.7 Consequently, the appeal filed by opponent 1 is admissible and opponent 1 has the status of an appellant (appellant 1).

2. Main request

2.1 Novelty

The findings of novelty of the decision under appeal were disputed with respect to the documents D14, D18, D34/35 and D36/37.

2.1.1 With respect to D14 the question to be answered is whether this document provides a disclosure - in combination - of all the features of operative claim 1.

Regarding the ethylene content, D14 discloses in claim 2 a polypropylene composition comprising a random propylene copolymer having an ethylene content in the range of 0.1-5 wt%, which falls partially within the range of "3.3-7 %wt" according to operative claim 1 (feature (i)). The examples employ polypropylene with an ethylene content of 2.1 wt% (D14: Table 1) which lies completely outside the claimed range. Hence in order to arrive at an ethylene content within the range of operative claim 1 (feature (i)) it is necessary to make a selection from the general disclosure of D14.

The polymers of D14 are disclosed in paragraphs [0008] and [0009] as being polypropylene homopolymers or copolymers, in particular random copolymers of propylene and one or more comonomers. However there is no indication in D14 as to the modality of the polymer. The contention of the appellants is that the term "multimodal" is generic and that all polymers can be considered multimodal to an extent. However, in contrast thereto the information given in the patent in suit at paragraph [0016], which in the Board's view reflects the usual understanding of that term in the technical field of polymers, indicates that multimodality (with respect to comonomer content) requires a particular constitution of the polymers, namely that multimodal polymer compositions may be obtained by a combination of a propylene copolymer and a homopolymer or by a combination of two copolymers of different comonomer contents. Alternatively, multimodality (with respect to molecular weight distribution) may be given in view of the molecular weight profile. Such a constitution of different polymers is not disclosed, even generally, in D14. Hence it is not possible, to any extent, to impute a

disclosure of multimodality to D14.

D14 discloses in paragraph [0029] a large number of different end uses, among which is caps and closures as defined in operative claim 1. However, choosing that specific embodiment requires a further selection within the ambit of D14.

Consequently in order to arrive at the subject matter of operative claim 1 from the disclosure of D14 a plurality of selections is required as well as the introduction of a feature - multimodality - which is not indicated, even generally, in the document.

Accordingly D14 can not be considered to anticipate the claimed subject-matter.

2.1.2 With respect to D18, the objection of the appellants is based on example 4, in which a blend of a particular polymer (B) (propylene homopolymer- column 7, lines 5-12) with a composition (D) (a mixture of propylene homopolymer and ethylene/propylene copolymer - column 7, lines 45-59) is used to make screw caps, the following matters are of relevance.

The appellants' objection is that composition (D) corresponds to feature (i) according to operative claim 1.

Firstly whilst operative claim 1 requires as feature (i) a random propylene ethylene copolymer having an ethylene content of 3.3-7 %wt, composition (D) of D18 contains an ethylene/propylene copolymer containing 60 wt.% ethylene. The contention of the respondent in paragraph 39 of the rejoinder that this difference in nomenclature denotes differences in terms of the

structure of the polymer has not been countered or disproved by the appellants. Also it is not disclosed explicitly that the polymer of composition (D) of D18 is random and no arguments or evidence have been submitted to establish that the indication of the preparation process at column 7, lines 60-64 of D18 (Ziegler Natta catalysis) provides - in the absence of any further details of the process conditions employed - an unambiguous teaching with respect to this aspect.

With respect to composition (D) there is the further aspect that the properties reported in D18 relate to the initially obtained polymer which is subjected to visbreaking prior to production of the caps (D18: column 5, lines 26-36; column 6, lines 45-48; column 7, lines 45-50). No details of the properties of the resulting visbroken material are however given.

Consequently the case of lack of novelty with respect to D18 has not been proven *inter alia* since the precise nature of the composition (D) actually employed to prepare the caps according to example 4 is not known.

- 2.1.3 a) Regarding D34/35, the sole base polymer disclosed therein which was referred to by the appellants (D35: paragraph [0011]) is a block copolymer of propylene and ethylene.

The polymer thus differs from that required by operative claim 1 (feature (i)) in at least two respects. Firstly the polymers do not satisfy the requirement of being random. Nor is there any evidence that the further requirement of multimodality is satisfied.

b) Regarding D36/37, the appellants referred to paragraphs 5, 8 and 12 of D37, which are directed to compositions containing a random ethylene/propylene copolymer. However an amount of ethylene in these polymers corresponding to that required by operative claim 1 (feature (i)) is not derivable - even implicitly - from the disclosure.

c) A further aspect of relevance to the assessment of D34/35 and D36/37 is the somewhat deficient and incomplete nature of the machine translations. In particular it is not possible on the basis thereof to understand the details of the compositions reported in the (untranslated) tables of these documents.

2.1.4 In view of the above, the objections of lack of novelty put forward by the appellants are rejected.

2.2 Inventive step

The patent in suit is directed to caps and closures comprising a polypropylene composition. The caps and closures are particularly suitable for use in the food and drinks industry as a result of their good organoleptic properties and high closing efficiency (paragraph [0001] of the patent).

2.2.1 Closest prior art

By common consent the closest prior art is represented by the teaching of D12 and the corresponding European publication D38, whereby D38, which was mainly considered by the parties during the appeal proceedings, will be referred to herein. In particular, examples 10 and 11 thereof are relevant, as indicated by appellant 2. Furthermore according to paragraph

[0071] the compositions can be employed to produce caps or closures among a number of other articles.

2.2.2 Distinguishing feature

It is also a matter of consensus that the subject-matter of the operative claims is distinguished from this teaching by the feature that a non-polymeric nucleating agent is present.

2.2.3 Technical effect

Regarding the resulting technical effect the respondent has invoked examples 10 and 11 of D38 which employ polymeric nucleating agents, arguing that the examples of the patent, employing non-polymeric nucleating agents showed low VOC and excellent organoleptic properties, which result was contrary to expectations (rejoinder to the statement(s) of grounds of appeal, sections 70-72).

The examples of the patent report in the table in paragraph [0075] the VOC content and the organoleptics, and show that the VOC content varies between 1 and 5 ppb for the two examples according to the claims, and for all examples the organoleptics has the same assessment- thus no significant difference detected. VOC and organoleptics are not reported in quantitative terms in D38. However from paragraph [0029], last three lines, it is derivable that the compositions of D38 are considered to avoid problems associated with low molecular weight nucleating agents in the light of purity requirements in medical and food applications . Similarly paragraph [0006] of D38 addresses problems such as migration, blooming etc. associated with low molecular weight nucleating agents, which lead to

deterioration in product quality.

The challenge to the reliability of the organoleptic tests was raised for the first time by appellant 2 at the oral proceedings, no corresponding submissions having been made in the written proceedings. No evidence was advanced in support of this argument. Thus to the extent that the argument is not to be excluded for constituting a late change of case (Article 13(3) RPBA), it has only the nature of an unsupported assertion, backed up by no evidence and is accordingly to be dismissed in any case.

It can thus be derived that the products of D38 are considered to be free of effects relating to contamination/tainting of materials in contact with the caps or closures and that this benefit is related to the use of the polymeric nucleating agents rather than the non-polymeric agents of the patent in suit.

On the basis of the evidence, the effect of the claimed subject-matter is equivalent to that of the compositions of D38 with the consequence that the only technical problem which can be formulated is the provision of further materials suitable for caps or closures which avoid the problems associated with migration of components leading to contamination of contents of the containers.

2.3 The solution

As shown by the examples of the patent in suit (table in paragraph [0075]), the above formulated problem is solved according to the operative claims by the presence of the non-polymeric nucleating agent.

2.4 Obviousness

D38 in paragraph [0006] starts from the knowledge of non-polymeric nucleating agents and explains the benefits and disadvantages of these. The use thereof is however explicitly dismissed due to problems associated with migration leading to contamination of materials in contact therewith. A further aspect which speaks against the use of such components is cost. On the other hand, handling thereof is much simpler, because masterbatch processes can be employed.

The teaching of D38 is thus that the known non-polymeric nucleating agents are unsuitable or unusable due to problems of contamination.

The examples of the patent in suit show that the concerns expressed in D38 are not valid in the context of the claimed polymeric compositions and that, contrary to the explicit teachings of D38, compositions are obtained which do not exhibit the expected disadvantages.

This could not be expected in the light of the explicit teachings of D38 and has to be considered a surprising result.

Under these circumstances the Board can arrive at no other conclusion than that the proposed solution to the problem of providing alternative caps or closures to those known from D38 is not obvious in the light of the teaching of this document.

2.5 In view of the above, the arguments submitted by the appellants in appeal provide no reason for the Board to deviate from the finding of the opposition division

according to which the subject-matter of operative claim 1 is inventive over D38 (or D12) as closest prior art. The same is valid for operative claims 2-9, which are dependent on said claim 1. Also, in the absence of any further objections directed to operative claims 10 and 11, there is no reason for the Board to arrive at a different conclusion regarding the inventive step for these claims.

- 2.6 As a consequence of these conclusions, there is no need for the Board to address the issue of the haze of the compositions used to prepare the caps/closures being claimed, which was an issue in dispute between the parties (in particular in respect of the formulation of the problem effectively solved over the closest prior art).

Order

For these reasons it is decided that:

1. The appeal of opponent 1 is admissible.
2. The appeals are dismissed.

The Registrar:

The Chairman:



B. ter Heijden

O. Dury

Decision electronically authenticated