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**Datasheet for the decision
of 11 February 2022**

Case Number: T 0369/19 - 3.3.03
Application Number: 11812176.3
Publication Number: 2599830
IPC: C08L27/04, C08K3/26, C08K5/053,
C08K5/26, C08K5/56
Language of the proceedings: EN

Title of invention:

VINYL-CHLORIDE-BASED RESIN COMPOSITION FOR TRANSPARENT PRODUCT

Patent Proprietor:

Adeka Corporation

Opponent:

Akdeniz Chemson Additives AG

Relevant legal provisions:

RPBA Art. 12(4)
EPC Art. 83, 56

Keyword:

Late-filed evidence - experimental data could have been filed
in first instance proceedings (no) - admitted (yes)
Sufficiency of disclosure - (yes)
Inventive step - main request (yes) - unexpected improvement
shown



Beschwerdekammern

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Case Number: T 0369/19 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 11 February 2022

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
17 December 2018 concerning maintenance of the
European Patent No. 2599830 in amended form.**

Composition of the Board:

Chairman D. Semino
Members: M. Barrère
R. Cramer

Summary of Facts and Submissions

I. The appeal of the opponent lies against the decision of the opposition division posted on 17 December 2018 concerning maintenance of European Patent number 2 599 830 in amended form on the basis of the claims of auxiliary request 2 filed with letter of 7 September 2018.

II. Claim 1 of auxiliary request 2 read as follows:

"1. A vinyl chloride-based resin composition for transparent products, which is characterized by comprising

0.01 to 0.3 parts by mass of (a) zinc acetylacetonate,

0.1 to 10 parts by mass of (b) a zinc-modified hydrotalcite and

0.1 to 10 parts by mass of (c) an ultraviolet absorber,

with respect to 100 parts by mass of a vinyl chloride-based resin."

The remaining claims of that request are not relevant to the present decision.

III. The following documents were *inter alia* cited in the decision under appeal:

D1: CN 101508636 A

D1b: English translation of D1
D2: Product data sheet of Chiguard® 1033, internet citation
D3: EP 0116931 A1
D5: EP 2336237 A1
D6: Alcamizer data sheet dated 19 April 2002; delivery note dated 13 January 2004; certificate of conformity dated 13 January 2004
D7: US 2002/0155397 A1

IV. The contested decision, as far as it is relevant to the present appeal, can be summarized as follows:

- Document D7 was admitted into the opposition proceedings because it was filed within the time limit set out by Rule 116 EPC and in response to the summons objecting that only specific ultraviolet absorbers negatively impacted the transparency of vinyl-chloride-based compositions.
- Auxiliary request 2 complied with the requirements of sufficiency of disclosure. In particular it was considered that zinc-modified hydrotalcites were known in the technical field of the invention, commercially available and obtainable by conventional methods.
- With regard to inventive step, D1 was the closest prior art. Claim 1 of auxiliary request 2 differed from the disclosure in this document in that a narrow range of 0.01-0.3 parts by mass per 100 parts by mass of vinyl chloride-based resin (phr) of zinc acetylacetonate was selected and in that the composition further comprised 0.1-10 phr of an ultraviolet absorber. The problem to be solved was the provision of transparent vinyl chloride-based

resin compositions having improved initial color, thermal stability and weather resistance. The cited prior art did not teach that the range of 0.01-0.3 phr of zinc acetylacetonate could be advantageous. Therefore claim 1 of auxiliary request 2 involved an inventive step.

- V. With the statement setting out the grounds of appeal the opponent (appellant) requested that the decision under appeal be set aside and that the patent be revoked.

The appellant further requested that document D7 (filed by the patent proprietor during opposition proceedings and admitted by the opposition division) not be admitted to the proceedings.

The following evidence was filed with the statement of grounds of appeal:

D8: Further experimental testing in view of
EP 2599830 B1

- VI. With the rejoinder to the statement of grounds of appeal, the patent proprietor (respondent) requested that the appeal be dismissed and the patent be maintained on the basis of the main request filed therewith, which corresponded to auxiliary request 2 of the contested decision. In the alternative maintenance of the patent in amended form on the basis of one of the auxiliary requests 1-4, also filed therewith, was requested.

The respondent further requested that document D8 not be admitted to the proceedings.

The claims of auxiliary requests 1-4 are not relevant to the present decision.

- VII. With letter of 6 December 2021 the appellant filed the following document in support of an inventive step attack against auxiliary request 4:

D9: US 5143959

- VIII. With letter of 17 January 2022 the respondent filed auxiliary request 5 and requested that document D9 not be admitted into the proceedings.

The claims of auxiliary request 5 are not relevant to the present decision.

- IX. Oral proceedings were held before the Board on 11 February 2022 by video conference.

- X. The appellant's arguments, insofar as relevant to the decision, may be summarised as follows:

(a) Admittance of D7

D7 was directed to the question whether UV absorbers were known to impair the transparency of polyvinyl chloride-based compositions (PVC compositions). This question was raised in the notice of opposition. Consequently D7 should have been filed with the rejoinder to the notice of opposition and not two months before the oral proceedings before the opposition division. Furthermore D7 was not *prima facie* relevant since it related to the field of polyesters and not to the technical domain of the opposed patent. For these reasons the decision of the opposition

division to admit D7 into the proceedings should be overturned.

(b) Admittance of D8

The experimental evidence D8 was filed to address the opposition division's finding according to which the acknowledged inventive step was dependent on the selection of the specific narrow range of the zinc acetylacetonate content. This finding was based on a new argument put forward by the respondent only two months before the oral proceedings. It was not possible to carry out the necessary experiments within two months. For these reasons, D8 could not have been filed during opposition proceedings and should be admitted into the appeal proceedings.

(c) Main request

(i) Sufficiency of disclosure

The additive "zinc-modified hydrotalcite" was an essential feature of the invention. However, the opposed patent failed to disclose a method of producing a zinc-modified hydrotalcite, a commercially available zinc-modified hydrotalcite or a reference to a prior art teaching how to obtain said additive.

Furthermore, although D5 and D6 mentioned zinc-modified hydrotalcite additives, said documents could not be considered as common general knowledge.

The opposed patent was therefore insufficiently disclosed to allow the skilled person to obtain zinc-modified hydrotalcite compounds.

(ii) Inventive step

D1 was the closest prior art for the subject-matter of claim 1.

Claim 1 differed from the disclosure in this document in that the PVC composition comprised:

- i) 0.1 to 10 phr of an ultraviolet absorber and
- ii) 0.01 to 0.3 phr of zinc acetylacetonate.

On the basis of D8, it was shown that the composition of example 1 of D1 was characterised by an improved thermal stability compared to example 3 of the opposed patent. No technical effect was demonstrated for the zinc acetylacetonate content range and the objective technical problem in view of D1 was therefore the provision of an alternative composition.

D1 itself suggested to adjust the amount of zinc acetylacetonate in the claimed range. Furthermore the use of a UV absorber was known in the present technical field (see D2 or D3).

Therefore claim 1 lacked an inventive step over D1.

XI. The respondent's arguments, insofar as relevant to the decision, may be summarised as follows:

(a) Admittance of D7

D7 was filed in direct response to the opposition division's preliminary opinion and contained a general explanation as to why UV absorbers reduced the transparency of polymer compositions. Therefore, the

opposition division correctly exercised their discretion to admit D7 into proceedings.

(b) Admittance of D8

The appellant had at least two months to carry out D8's experiments, which at first sight should be a more than reasonable amount of time. Thus D8 could and should have been filed during opposition proceedings.

Furthermore D8 was not *prima facie* relevant since the experiments disclosed therein were not a true repetition of examples of the opposed patent.

For these reasons D8 should not be admitted into the proceedings.

(c) Main request

(i) Sufficiency of disclosure

It was generally known to the skilled person how a zinc-modified hydrotalcite according to claim 1 could be obtained or synthesised. In particular it was apparent from D5 and D6 that zinc-modified hydrotalcites were known in the field and commercially available or could be prepared by conventional methods. Therefore, the patent was sufficiently disclosed.

(ii) Inventive step

D1 was the closest prior art for the subject-matter of claim 1.

Claim 1 differed from the disclosure in this document in that the PVC composition comprised:

- i) 0.1 to 10 phr of an ultraviolet absorber and
- ii) 0.01 to 0.3 phr of zinc acetylacetonate.

It was shown in the examples of the opposed patent that the combination of a UV absorber and zinc acetylacetonate in the content ranges according to claim 1 led to improved thermal stability and weathering resistance of the composition without impairing the transparency.

D8 was not suitable to provide evidence of the contrary. In particular it was not possible to draw any meaningful conclusion from the comparison of example 1 with example 3 since several variables were changed at the same time. Furthermore, example 3 and comparative example 3 of D8 were not exact reproductions of the corresponding examples of the opposed patent due to the presence of a plasticiser. In any case the only conclusion that could be drawn from D8 was that, even in the presence of a plasticiser, the composition of example 3 had improved colour and thermal resistance compared to comparative example 3.

Therefore the objective problem to be solved was to provide a transparent vinyl chloride-based resin composition having improved weathering and thermal resistance without impairing the transparency.

None of the cited documents suggested to use 0.01 to 0.3 phr of zinc acetylacetonate in order to solve the above problem. Furthermore it was common general knowledge (as shown in D7) that UV absorbers impaired the transparency of polymer compositions. For that reason, the person skilled in the art wishing to

provide a composition with a good transparency, would not add a UV absorber to the compositions of D1.

Therefore claim 1 involved an inventive step over D1.

XII. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

XIII. The respondent requested that the appeal be dismissed, or alternatively that the decision under appeal be set aside and the patent be maintained on the basis of the claims of one of auxiliary requests 1-4 filed with the rejoinder to the statement of grounds of appeal, or of auxiliary request 5 filed with the letter of 17 January 2022.

Reasons for the Decision

1. Admittance of document D7

D7 was submitted by the respondent with letter of 7 September 2018 and admitted into the proceedings by the opposition division.

The appellant contests the admittance of D7 to the proceedings because said document would not be *prima facie* relevant (see statement of grounds of appeal, point 2.2.1). Specifically, said document would relate to polyester compositions and would therefore not be within the ambit of the opposed patent which concerned PVC resin compositions. Furthermore D7 should have been filed with the rejoinder to the notice of opposition and not two months before the oral proceedings before the opposition division.

According to the established case law, in particular decision G 7/93 (OJ EPO 1994, 775), point 2.6 of the reasons, Boards of appeal should only overturn discretionary decisions of the first instance if it is concluded that the first instance exercised its discretion according to the wrong principles, or without taking into account the right principles or in an unreasonable way.

According to the contested decision (see point 6.1.2), D7 was admitted into the proceedings because it was filed within the time limit set out by Rule 116 EPC and in response to an objection of the opposition division according to which only specific ultraviolet absorbers would negatively impact the transparency of vinyl-chloride-based compositions.

For the Board, the principles used by the opposition division are correct (see Case Law of the Boards of Appeal, 9th edition 2019, IV.C.4.5.1).

Although the opposition division did not explicitly consider whether the teaching of D7 applied only to polyester resins or not, they held that D7 was nevertheless of interest to provide evidence that UV absorbers may have a negative impact on the transparency of a polymer composition. Furthermore, in the communication accompanying the summons to oral proceedings, the opposition division had raised doubts as to whether UV absorbers were known to negatively impact transparency (see annex to the summons of the opposition division, page 5, last paragraph). Thus it is also reasonable to consider that the filing of D7 was a timely reply to an objection raised by the opposition division.

Accordingly, the Board has no reason to consider that the first instance exercised its discretion in an unreasonable way.

The Board therefore decides not to overturn the decision of the opposition division with the consequence that D7 remains part of the proceedings.

2. Admittance of document D8

D8 is a new piece of evidence submitted by the appellant with the statement of grounds of appeal. Its admission to the proceedings, which is contested by the respondent, is subject to the discretionary power of the Board in accordance with Article 12(4) RPBA 2007 which applies in view of the transitional provisions in Article 25(2) RPBA 2020. In particular the Board has the discretionary power to hold inadmissible facts, evidence and requests which could have been presented or were not admitted in the first instance proceedings.

According to the appellant, D8 is directed to establishing that the narrow content range of zinc acetylacetonate is not linked to a technical effect contrary to the finding of the opposition division (see letter of 6 December 2021, page 1, last paragraph).

The admittance of D8 is contested by the respondent for the following reasons (see rejoinder, pages 2-3):

D8 should have been filed during opposition proceedings, and

the examples in D8 would not be suitable to demonstrate the lack of an effect of the opposed patent over example 1 of D1.

The Board notes that D8 has been filed to show that the claimed content of acetylacetonate (0.001 to 0.3 parts by mass) would have no effect on the properties of the PVC composition. The relevance of this feature for the assessment of inventive step was mentioned for the first time in the patentee's submission of 7 September 2018 (see page 3, last two paragraphs), filed only two months before the oral proceedings. The Board therefore agrees with the appellant that D8 could not have been filed during opposition proceedings, as a period of two months was not sufficient to plan, conduct and evaluate the experiments provided for in D8. Furthermore, while D8 does not necessarily reproduce examples of the opposed patent, it discloses experiments with various amounts of zinc acetylacetonate and is therefore *prima facie* relevant to assess the effect of said amounts.

Therefore the Board finds it appropriate not to make use of its discretion under Article 12(4) RPBA 2007 to hold document D8 inadmissible with the consequence that D8 is part of the proceedings.

3. Main request (patent as maintained by the opposition division)

3.1 Sufficiency of disclosure

The appellant is of the opinion that the opposed patent lacks sufficiency of disclosure because it fails to disclose a method of producing a zinc-modified hydrotalcite, a commercially available zinc-modified hydrotalcite or a reference to a prior art teaching how to obtain said additive.

The Board cannot follow this objection for the following reasons:

According to established case law, a successful objection of lack of sufficiency of disclosure presupposes that there are serious doubts, substantiated by verifiable facts. In inter partes proceedings, the burden of proof is upon the opponent to establish, on the balance of probabilities, that a skilled person reading the patent, using common general knowledge, would be unable to carry out the invention (see Case Law of the Boards of Appeal, 9th edition, 2019, II.C.9).

In the present case the appellant holds that zinc-modified hydrotalcite would not belong to common general knowledge. However, the appellant did not provide any evidence in support of this allegation. Furthermore, although D5 and D6 cannot be considered as common general knowledge, these documents support the position that commercial zinc-modified hydrotalcites were known and available at the filing date of the opposed patent (see D5, page 5, paragraph [0026] and D6, title and page 2, "1. identification") and make a case for a strong presumption against the lack of sufficiency. Since zinc-modified hydrotalcites are commercially available products, the appellant's mere assertion that they do not belong to common general knowledge is not sufficient to raise serious doubts about the skilled person's ability to obtain a zinc-modified hydrotalcite.

Consequently, the Board sees no reason to depart from the opposition division's finding with regard to sufficiency of disclosure (see point 5 of the contested decision).

3.2 Inventive step

3.2.1 Closest prior art

Both parties, as the opposition division, consider that D1 is suitable as the closest prior art document. The Board sees no reason to deviate from that view.

3.2.2 Distinguishing features

The parties in agreement with the contested decision hold that claim 1 of the main request differs from the disclosure of D1 in that the composition comprises:

- i) 0.1 to 10 phr of an ultraviolet absorber and
- ii) 0.01 to 0.3 phr of (a) zinc acetylacetonate (emphasis added by the Board).

In the absence of a dispute the Board has no reason to take a different view.

3.2.3 Technical problem

The appellant submitted document D8 in order to provide evidence that example 1 of D1 showed better thermal stability and weathering resistance as well as similar colour fastness in comparison to example 3 of the opposed patent. According to the appellant the problem to be solved should therefore be formulated as the provision of an alternative composition.

The Board cannot follow this position based on D8 for the following reasons:

The quantity of zinc acetylacetonate and the UV-absorber are not the only differences between example 3 and comparative example 3 of D8 (allegedly reproducing examples of the patent) and the reproduction of example 1 of D1, so that no conclusion can be drawn from a direct comparison of these examples. Moreover, example 3 and comparative example 3 of D8 are not exact reproductions of the corresponding examples of the opposed patent due to the presence of 50 phr of a plasticiser in D8.

In fact, the only meaningful conclusion that may be drawn from D8 results from the direct comparison between example 3 and comparative example 3 thereof. Indeed example 3 differs from comparative example 3 only in that the amount of zinc acetylacetonate is 0,2 phr (instead of 0,5 phr). The results in D8 show that example 3 is characterised by a better thermal and weathering resistance than the one of comparative example 3 (see D8, table, thermal stability time (VDE) and yellowness index (Y.I.)). These results are in line with the experimental data of the opposed patent (see table 1, examples 1-7 vs. table 2, comparative example 3). In the absence of a proof of the contrary, it is therefore credible that the distinguishing feature ii) is associated with an improved thermal and weathering resistance.

As to the presence of a UV absorber (distinguishing feature i)), it was not disputed between the parties that this distinguishing feature is associated with an improved weathering resistance (see statement of grounds of appeal, page 7, penultimate paragraph and rejoinder, page 4, last paragraph).

In conclusion the objective technical problem to be solved can be formulated as the provision of a transparent PVC composition with improved thermal and weathering resistance.

3.2.4 Obviousness of the solution

The appellant considers that D1 itself taught to use between 0.01 and 0.3 phr of zinc acetylacetonate (see D1b, examples 1, 4 and 9).

However, this argument is not convincing as it does not take into account the objective technical problem mentioned above.

While it is acknowledged that D1 contemplates quantities overlapping with the range according to claim 1, this document is silent about any positive effects associated with the amount of zinc acetylacetonate in the claimed range (and in particular below 0,3 phr). Already for that reason it is not an obvious option for the skilled person wishing to improve the thermal and weathering resistance of the compositions of D1 to select an amount of 0.01 to 0.3 phr of zinc acetylacetonate.

Therefore the appellant's arguments are not sufficient to overturn the opposition division's finding with regard to inventive step (see contested decision, points 6.2.1 to 6.2.7).

3.3 Since none of the objections raised by the appellant is successful, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



B. ter Heijden

D. Semino

Decision electronically authenticated