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D E C I S I O N
of 20 November 2003

Case Number: T 0184/01 - 3.3.1

Application Number: 92810499.1

Publication Number: 0524904

IPC: C09B 67/00

Language of the proceedings: EN

Title of invention:
Process for conditioning organic pigments

Patentee:
Ciba Specialty Chemicals Holding Inc.

Opponent:
Sun Chemical Corporation

Headword:
Conditioning pigments/CIBA

Relevant legal provisions:
EPC Art. 54(1)(2)

Keyword:
"Novelty: main and first auxiliary request (no); second auxiliary request (yes)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0184/01 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 20 November 2003

Appellant: (Proprietor of the patent)	Ciba Specialty Chemicals Holding Inc. Klybeckstrasse 141 CH-4057 Basel (CH)
Representative:	-
Respondent: (Opponent)	Sun Chemical Corporation 222 Bridge Plaza South Fort Lee NJ 07024 (US)
Representative:	VOSSIUS & PARTNER Siebertstrasse 4 D-81675 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted 19 December 2000 revoking European patent No. 0524904 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: A. J. Nuss
Members: P. P. Bracke
S. U. Hoffmann

Summary of Facts and Submissions

I. The appeal lies from the Opposition Division's decision to revoke European patent No. 0 524 904 for lack of novelty, holding that each of examples 1 and 2 of document

(5) EP-A-0 039 912

was novelty destroying for the then pending Claim 14, which read:

"A process of converting a crude perylene pigment into pigmentary form consisting essentially of premilling the crude pigment, contacting the premilled pigment with a polar solvent selected from the group consisting of N,N-dimethylformamide, N,N-dimethylacetamide, N,N,N',N'-tetramethylurea, N-methylpyrrolidone, N-methylformamide, tetramethylene sulfone and dimethylsulfoxide at a temperature below 50°C for a period of time sufficient to obtain pigmentary particle size for 5 minutes to 20 hours and isolating the pigmentary form."

In particular, the Opposition Division found that the starting perylimide used according to examples 1(b) in document (5) was to be interpreted as "crude perylene pigment" in the sense of the then pending Claim 14 and that the additional stirring at 50°C or more was not excluded from the wording thereof.

II. At the oral proceedings held on 20 November 2003 the Appellant (Proprietor of the patent) filed sets of claims according to the main and the first to third auxiliary requests.

The set of claims according to the main request contained 14 claims, wherein Claim 14 was identical with Claim 14 underlying the contested decision.

Also the first and second auxiliary requests consisted of 14 claims.

Claim 14 of the first auxiliary request read:

"A process of converting a crude perylene pigment into pigmentary form **without the need for acid or base or additional milling of any kind** consisting essentially of premilling the crude pigment, contacting the premilled pigment with a polar solvent selected from the group consisting of N,N-dimethylformamide, N,N-dimethylacetamide, N,N,N',N'-tetramethylurea, N-methylpyrrolidone, N-methylformamide, tetramethylene sulfone and dimethylsulfoxide at a temperature below 50°C for a period of time sufficient to obtain pigmentary particle size for 5 minutes to 20 hours and isolating the pigmentary form." (emphasis added)

Claim 14 of the second auxiliary request read:

"A process of converting a crude perylene pigment into pigmentary form consisting essentially of premilling the crude pigment, **wherein the milling mixture composition is 75 to 85 % pigment crude and 15 to 25 % anhydrous Na_2SO_4**, contacting the premilled pigment with

a polar solvent selected from the group consisting of N,N-dimethylformamide, N,N-dimethylacetamide, N,N,N',N'-tetramethylurea, N-methylpyrrolidone, N-methylformamide, tetramethylene sulfone and dimethylsulfoxide at a temperature below 50°C for a period of time sufficient to obtain pigmentary particle size for 5 minutes to 20 hours and isolating the pigmentary form." (emphasis added)

The set of claims according to the third auxiliary request was identical with the set of claims according to the main request, with the exception that Claim 14 was deleted.

III. The Appellant argued that crude pigments were to be understood as pigments directly obtained from the synthesis step. Since the starting product in step (b) of example 1 of document (5) had been treated according to the method described in step a), that starting product could not be considered as a crude pigment. Therefore, the process described in example 1 of document (5) could not be novelty destroying for Claim 14 according to the main and first and second auxiliary requests.

As support of this argumentation the Appellant referred to documents

(A1) Industrielle Organische Pigmente, first edition, VCH, Weinheim, Germany, pages 472 to 481 (1987) and

(A2) High Performance Pigments, Wiley-VCH Verlag-GmbH, Weinheim, Germany, pages 249 to 261 (2002),

wherein milling as well as recrystallisation and reprecipitation were mentioned as after-treatment or conditioning steps.

Moreover, the Appellant submitted that the additional stirring after the solvent treatment at 50°C or more according to the examples of document (5) materially affects the essential characteristics of the pigment. Since each Claim 14 according to the main and first and second auxiliary requests is restricted to a process **consisting essentially of** premilling, contacting with a solvent and isolating, the examples of document (5) could not be novelty destroying for Claim 14.

IV. The Respondent (Opponent) submitted that it was not defined in the patent in suit what was to be understood by a crude perylene pigment and that such term was to be interpreted as also embracing the starting pigments used in e.g. example 1(b) of document (5).

The Respondent further contested that by the wording of Claim 14 according to the main and first and second auxiliary requests additional steps were excluded.

V. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of either the main request or the first, the second or the third auxiliary request, all filed on 20 November 2003.

The Respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

2. *Novelty of Claim 14 according to the main request over document (5)*

2.1 Document (5) discloses a method of preparing perylene pigments by converting a corresponding crude pigment into the sulfate, isolating the sulfate, liberating the pure product from the sulfate by hydrolysis, separating the pure product and dry-milling the anhydrous material, possibly with subsequent solvent-finishing (page 2, lines 6 to 33).

Such method is illustrated *inter alia* in example 1, describing the steps of

(a) converting "crude perylimide" into "pure perylimide" in sulphuric acid followed by filtering off the crystalline sulfate, washing and drying;

(b) milling the thus obtained "pure perylimide" and removing the milled material by sieving; and

(c) stirring the milled material for 15 hours at room temperature in N-methylpyrrolidone.

2.2 It has never been contested, that the claimed process could differ from the process-steps (b) and (c) of example 1 of document (5) only by the fact that according to Claim 14 a "crude perylene" is used as starting material whereas according to example 1 of

document (5) "pure perylimide" is used as starting material in step (b).

Therefore, the question arises whether the starting "crude perylimide" in Claim 14 qualifies as a distinguishing feature rendering the claimed process novel over example 1 of document (5).

2.3 In the patent in suit no explanation can be found how the term "crude perylene pigment" is to be interpreted. The only information available from the patent in suit can be found on page 2, lines 1 and 2, stating that the synthesis of organic pigments generally produces a product in coarse crystalline form, which necessarily must be subjected to an after-treatment or so-called "conditioning" in order that the pigment can be appropriately utilised.

This statement in the patent in suit is confirmed in the documents presented by the Appellant as common general knowledge. Namely, in document (A1) it is confirmed that, for the conversion of perylene pigments in a technically applicable form, several methods are known, such as precipitation from sulphuric acid, milling and recrystallisation from solvents and often combinations thereof (see page 474, fifth paragraph). This is further confirmed in document (A2), which can only be considered as an expert opinion due to its late publication date (see page 255 in the first three paragraphs under chapter 16.3).

2.4 However, nowhere may it be derived from the cited documents that only such perylenes qualify as "crude perylenes" that are directly obtained from the

synthesis step. To the contrary, from the first paragraph under the heading 16.3 of document (A2), stating

"The product(s) of condensations and alkylations of perylenes are typically non pigmentary in their behaviour, and are often termed "crudes", because of their need for upgrading in tinctorial and working properties rather than only in chemical purity",

it may rather be derived that under "crude perylenes" those perylenes are to be understood that need further upgrading not in respect of their chemical purity but in tinctorial and working properties.

2.5 As in document (5) step (b) of example 1 has no other aim than to upgrade the perylimides used as starting material in that step in respect of tinctorial and working properties, the starting perylimides in step (b) of example 1 are thus to be considered as "crude perylene pigments" in the sense of Claim 14.

Therefore, Claim 14 is not novel over the disclosure of document (5).

2.6 In this context, the Appellant submitted that it followed from document (5) that the product obtained in step (a) of example 1 was a "prepigment", which already exhibits pigmentary properties and wherein the particles only need a deagglomeration process by milling and a further finish step to enhance the pigmentary properties, and that such prepigment is different from a crude pigment.

Since, however, also the Appellant conceded that the pigment obtained from step a) in example 1 of document (5) is further treated in the subsequent steps to enhance the pigmentary properties, it is clear that the tinctorial and working properties of the perylimides used as starting material in step b) are upgraded. Consequently, such starting perylimides are to be considered as "crude perylene pigments" in the sense of Claim 14.

2.7 The Appellant also argued that the examples of document (5) differed from the claimed process, because the milling step in examples 1 to 10 and 12 was conducted in the presence of an organic compound, whereas in the specification of the patent in suit mention was only made of the addition of inorganic salts.

However, in determining whether the process of Claim 14 is novel over the disclosure of document (5) the only relevant question is whether all features of Claim 14 are known from document (5). As by the use of the formulation "A process of converting ... consisting essentially of ..." the wording of Claim 14 is not restricted to processes wherein an additive is used in the milling step, such wording embraces any process of converting a crude perylene pigment independently of the presence of whatever kind of additive in the premilling step.

2.8 Finally, the Appellant argued that in the examples of document (5) after the solvent treatment the mixture was always heated at a temperature of at least 50°C. Since the claimed method is restricted to a process **consisting essentially of** premilling the crude pigment

and contacting the premilled pigment with a polar solvent at a temperature below 50°C, the processes of those examples differed from the method of Claim 14.

However, the expression "consisting essentially of" does not restrict Claim 14 to methods containing only those steps specifically mentioned. That expression rather does not exclude the presence of other steps, in addition to the mandatory steps specified in Claim 14, as long as such other steps do not effect the essential nature of the claimed method.

In that context, the Appellant alleged that it was not demonstrated that the additional treatment at a temperature of at least 50°C did not materially affect the essential characteristics of the claimed method.

As a matter of principle, however, the burden of proof is upon the party making an allegation. In the present case, the Appellant did not supply any evidence that the additional treatment described in the examples of document (5) would materially affect the claimed method. In particular, the Appellant did not provide any evidence that the additional treatment in example 4 of the patent in suit, which is explained by the Appellant to remove iron from the pigment, would not materially affect the claimed method whereas the additional treatment in the examples of document (5) would do so. As, thus, the Appellant made an unsubstantiated allegation, which the Respondent contested, the Board does not have any reason to accept such allegation.

3. *Novelty of Claim 14 according to the first auxiliary request over document (5)*

Claim 14 differs from Claim 14 according to the main request only by the clarification that the process of converting a crude perylene pigment into pigmentary form does not need acid or base or additional milling of any kind (see emphasised part in point II above).

As such additional clarification, however, does not further restrict the scope of the claimed method in the sense of excluding any of such treatments, Claim 14 is not novel over the disclosure of document (5) for the reasons given in point 2 above.

4. *Claim 14 according to the second auxiliary request*

4.1 Claim 14 according to the second auxiliary request only differs from Claim 14 according to the main request by the further specification that the milling mixture composition is 75 to 85 % pigment crude and 15 to 25 % anhydrous Na_2SO_4. (see emphasised part in point II above)

As milling mixture compositions containing 75 to 85 % pigment crude and 15 to 25 % anhydrous Na_2SO_4 are specifically described on page 3, lines 17 and 18, of the application as filed to be preferred, Claim 14 has not been amended in such a way that subject-matter extending beyond the content of the application as filed is added. Thus, Claim 14 fulfils the requirement of Article 123(2) EPC, which has never been contested.

4.2 Moreover, it has never been contested that by the specification that the milling mixture compositions contain 75 to 85 % pigment crude and 15 to 25 % anhydrous Na_2SO_4 the wording of Claim 14 is not rendered unclear. Also the Board sees no reason why such further specification would have a reverse effect on the clarity of Claim 14 (Article 84 EPC).

4.3 Novelty of Claim 14 according to the second auxiliary request over document (5).

4.3.1 Example 11 of document (5) is the only example in which Na_2SO_4 is used in the milling step. However, since in example 11 perylene and Na_2SO_4 are milled in a ratio of 1 to 10, contrary to the requirement in Claim 14 that the milling compositions contain 75 to 85 % pigment crude and 15 to 25 % anhydrous Na_2SO_4, example 11 does not disclose a process falling under the scope of Claim 14.

4.3.2 The Respondent was nevertheless of the opinion that document (5) was novelty destroying for Claim 14 due to the general statement on page 3, lines 38 to 40, that inorganic salts, in particular, Na_2SO_4 may be used in the milling step.

4.3.3 In order to be novelty destroying, however, all features **in the claimed combination** must be directly and unambiguously derivable from the teaching of one single document.

The only mention of Na_2SO_4 is in example 11 and on page 3, lines 38 to 40 of document (5). However, example 11 does not relate to the claimed process (see

point 5.3.1 above) and the citation on page 3 is completely silent both in respect of the nature of Na_2SO_4 (anhydrous or hydrated form) and the weight proportion of pigment crude to Na_2SO_4. In the absence of a direct and unambiguous disclosure of the emphasised feature of Claim 14 (see point II above), document (5) cannot be considered to be novelty destroying for the process of Claim 14.

5. *Remittal*

All reasons given by the Opposition Division's decision for revoking the patent in suit concern the novelty of the process of converting a crude perylene pigment into pigmentary form as defined in the then pending Claim 14 over the disclosure of document (5). The Board noted that the contested decision is completely silent about the novelty of the process of Claim 14 over any other cited document, about the fact whether such process meets the requirement of inventive step over the complete cited prior art and about the patentability of all other claims over that prior art.

Having regard to the fact that the function of the Boards of Appeal is primarily to give a judicial decision upon the correctness of the earlier decision taken by the first instance and in order to give the Appellant the possibility of having his case examined and decided by two instances, the Board exercises its discretionary power under Article 111(1) EPC and remits the case to the Opposition Division for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance for further prosecution.

The Registrar: The Chairman:

N. Maslin A. Nuss