

Internal distribution code:

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

**Datasheet for the decision
of 16 July 2010**

Case Number: T 0725/08 - 3.3.01

Application Number: 01103566.4

Publication Number: 1132434

IPC: C09B 67/04

Language of the proceedings: EN

Title of invention:

Method for preparing organic pigments

Patentee:

SUN CHEMICAL CORPORATION

Opponent:

BASF SE

Headword:

Organic Pigment/SUN

Relevant legal provisions:

EPC Art. 123(2), 101(3)(a), 84
RPBA Art. 13(1); 12(1)

Keyword:

"Main request: "consisting essentially of" extends beyond the content of the application"

"1st to 3rd auxiliary request: extends beyond the content of the application as filed"

"4th to 7th auxiliary requests: lack of clarity due to the overlapping meaning of ingredient with respect to two defined ranges"

Decisions cited:

G 0001/93, T 0727/04, T 0457/02, T 1129/97, T 0759/91, T 0522/91

Catchword:

-



Case Number: T 0725/08 - 3.3.01

D E C I S I O N
of the Technical Board of Appeal 3.3.01
of 16 July 2010

Appellant I: SUN CHEMICAL CORPORATION
(Patent Proprietor) 35 Waterview Boulevard
Parsippany, NJ 07054-1285 (US)

Representative: Vossius & Partner
P.O. Box 86 07 67
D-81634 München (DE)

Appellant II: BASF SE
(Opponent) Patentabteilung - C6
Carl-Bosch-Strasse 38
D-67056 Ludwigshafen (DE)

Representative: Huhn, Michael
Neustadter Straße 71-75
D-68309 Mannheim (DE)

Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
25 January 2008 concerning maintenance of
European patent No. 1132434 in amended form.

Composition of the Board:

Chairman: P. Ranguis
Members: J.-B. Ousset
D. S. Rogers

Summary of Facts and Submissions

- I. The patent proprietor (appellant I) and the opponent (appellant II) filed appeals against the decision of the opposition division to maintain the European patent No. 1 132 434 on the basis of the fifth auxiliary request.
- II. The opponent (appellant II) sought revocation of the patent in suit for lack of novelty and lack of inventive step.
- III. The opposition division found that the main request was not novel; the first and second auxiliary requests had been amended in such a way that their wording was not clear due to the expression "consisting essentially of". The third auxiliary requests and the amended third auxiliary request contravened the requirements of Article 123(2) EPC, given that *inter alia* the use of the term "or" in relation with the definition of the milling additive covered an alternative which was not present in the description, namely the use of one or more inorganic and/or organic bases as sole milling agent. The fourth auxiliary request also contravened the requirements of Article 123(2) EPC.
- IV. The present decision is based on the claims of the main and first to seventh auxiliary requests submitted by appellant I during oral proceedings before the Board:

Claim 1 of the main request reads as follows:

"1. A process for preparing dispersible organic pigments comprising:

(a) milling a mixture consisting essentially of

(1) one or more organic pigments,

(2) at least about 1 % by weight, relative to the organic pigment, of one or more aromatic polyalkylene oxide dispersants,

(3) 0 to about 10 parts by weight, relative to the organic pigment, of a milling liquid in which the organic pigment is substantially insoluble,

(4) 0 to about 50% by weight, relative to the organic pigment, of one or more milling additives other than dispersant (2), and

(5) 0 to about 20% by weight, relative to the organic pigment, of one or more surface treatment additives;

(b) optionally, adding to the milled pigment

(6) one or more liquids in which the organic pigment is substantially insoluble in amounts such that the total solids content is not reduced below about 10%, and

(7) one or more multivalent metal salts and/or one or more quaternary ammonium salt; and

(c) isolating the milled organic pigment by spray drying or lyophilization, wherein the milling additive is selected from inorganic compounds, surfactants, dispersants other than the aromatic polyalkylene oxide dispersants specified above, wetting agents, defoamers, grinding aids, latices, or mixtures thereof, and/or one or more inorganic and/or organic bases;

and the surface treatment additive is selected from acrylic copolymers; fatty acids and corresponding amides, esters, or salts thereof; resin acids; C₁₂-C₁₈ paraffin-disulfonic acids; sulfonated dicarboxylic acids; corresponding esters or amides thereof; alkyl phosphates and phosphonates; long chain fatty amines; polyamines; quaternary ammonium compounds; alkylphenols; alcohols and diols; alkoxyated fatty acids and amides; alkoxyated alcohols, alkoxyated alkylphenols, and glycol esters; waxes; polyurethanes; plasticizers or combinations thereof."

Claim 1 of the first auxiliary request differs from Claim 1 of the main request in that the expression "consisting essentially of" was replaced with "consisting of".

Claim 1 of the second auxiliary request differs from Claim 1 of the main request in that the expression "consisting essentially of" was replaced with "consisting of" and

the expression "and/or one or more inorganic and/or organic bases" was replaced with "or one or more inorganic and/or organic bases".

Claim 1 of the third auxiliary request differs from Claim 1 of the main request in that the expression "consisting essentially of" was replaced with "consisting of" and

the expression "and/or one or more inorganic and/or organic bases" was replaced with "or one or more inorganic and/or organic bases if the aromatic

polyalkylene oxide dispersant contains acidic functional groups".

V. Claim 1 of the fourth auxiliary request reads as follows:

"1. A process for preparing dispersible organic pigments comprising:

(a) milling a mixture consisting of

(1) one or more organic pigments,

(2) at least about 1 % by weight, relative to the organic pigment, of one or more aromatic polyalkylene oxide dispersants,

(3) 0 to about 10 parts by weight, relative to the organic pigment, of a milling liquid in which the organic pigment is substantially insoluble,

(4) 0 to about 50% by weight, relative to the organic pigment, of one or more milling additives other than dispersant (2), and

(5) 0 to about 20% by weight, relative to the organic pigment, of one or more surface treatment additives;

(b) optionally, adding to the milled pigment

(6) one or more liquids in which the organic pigment is substantially insoluble in amounts such that the total solids content is not reduced below about 10%, and

(7) one or more multivalent metal salts and/or one or more quaternary ammonium salt; and

(c) isolating the milled organic pigment by spray drying or lyophilization wherein the milling additive is selected from inorganic compounds, surfactants, dispersants other than the aromatic polyalkylene oxide dispersants specified above, wetting agents, defoamers, grinding aids, latices, or mixtures thereof and the surface treatment additive is selected from acrylic copolymers; fatty acids and corresponding amides, esters, or salts thereof; resin acids; C₁₂-C₁₈ paraffin-disulfonic acids; sulfonated dicarboxylic acids; corresponding esters or amides thereof; alkyl phosphates and phosphonates; long chain fatty amines; polyamines; quaternary ammonium compounds; alkylphenols; alcohols and diols; alkoxyated fatty acids and amides; alkoxyated alcohols, alkoxyated alkylphenols, and glycol esters; waxes; polyurethanes; plasticizers or combinations thereof."

Claim 1 of the fifth auxiliary request differs from Claim 1 of the fourth auxiliary request in that the "surfactants" were deleted and the "inorganic compounds" were "selected from metal salts" the "dispersants other than the aromatic polyalkylene oxide dispersants specified above" were "selected from sulfonamide, carboxamide, or aminoalkyl derivatives of organic pigments". Moreover, the "wetting agents" were also deleted.

Claim 1 of the sixth auxiliary request differs from Claim 1 of the fourth auxiliary request in that the amount of component (2) ranges from "15 to 100% by weight" and the "surfactants" were deleted. Moreover,

the "inorganic compounds" were "selected from metal salts"

the "dispersants other than the aromatic polyalkylene oxide dispersants specified above" were "selected from sulfonamide, carboxamide, or aminoalkyl derivatives of organic pigments". The "wetting agents" were also deleted.

Claim 1 of the seventh auxiliary request differs from Claim 1 of the fourth auxiliary request in that the term "comprising" (see first line) was replaced with "consisting of"

the amount of component (2) ranges from "15 to 100% by weight" and the "surfactants" were deleted. Moreover, the "inorganic compounds" were "selected from metal salts"

the "dispersants other than the aromatic polyalkylene oxide dispersants specified above" were "selected from sulphonamide, carboxamide, or aminoalkyl derivatives of organic pigments". The "wetting agents" were also deleted and the "alcohols and diols" were replaced with "stearyl alcohol and dodecane-1,2-diol".

VI. Appellant's I arguments as far as they are relevant for the present decision can be summarized as follows:

- The expression "...consisting essentially of..." was not mentioned *expressis verbis* in the description as originally filed. However, it was introduced into claim 1 in order to render the wording more precise and to limit the different components of the milling mixture. This expression allowed the presence of some impurities in such amounts that it did not change the composition but

excluded non-technical elements. The decisions T 759/91; T 522/91 and T 457/02 were cited. Decision G 1/93 was also referred to, in particular to the second paragraph of the "Headnote", since the expression "consisting essentially of..." was meant to exclude non technical features.

- The person skilled in the art would interpret the expression "In certain cases" (see page 16, line 21) as meaning "and/or", since the person skilled in the art would need to decide whether the addition of an acid and/or a base is necessary. The replacement of the expression "In certain cases" was made to overcome the objection of lack of novelty. This amendment aimed also at making one single sentence out of two.

- The person skilled in the art knew the meaning of the expressions like "surfactants", "wetting agent", "inorganic compound", "grinding aids", "lattices", "defoamers", "dispersants", "waxes". These expressions concerned an optional feature and were therefore not essential and were clear for the person skilled in the art.

- Patents are addressed to a person skilled in the art. The skilled person interprets a claim in view of the whole disclosure of the patent, and in addition applies his general knowledge. The meaning of the terms mentioned above is within the general knowledge of the person skilled in the art and the person skilled in the art knows which compounds or compound are within a specific term

used in a claim. This is evidenced by the documents (21), and (24) provided by appellant II. The person skilled in the art knows whether or not some terms have overlapping meanings.

VII. Appellant II's arguments as far as they are relevant for the present decision can be summarized as follows:

The amended requests lack clarity and, therefore, give rise to objections under Article 84 EPC. The process for preparing dispersible organic pigments involves the use of 0 to about 50% by weight of milling additives. Milling additives are defined as inorganic compound, surfactants, dispersants, wetting agents, defoamers, grinding aids and lattices.

The technical term "inorganic compound" is not clear and no definition of this term is given in the description. Therefore, this term encompasses all the compounds which can be obtained by combination of elements of the periodic system (organic compounds excluded).

Likewise, the notion of "surfactants, dispersants, wetting agents, defoamers, grinding aids and lattices" is unclear.

Under surfactant the skilled person understands surface active agents or interfacial active agents which reduce the surface tension of two phases. This notion encompasses a very large class of material and is often used as a synonym for other additives used in the preparation of pigments.

Wetting agent, dispersants, binders and anti-settling agents are covered by the term "surfactants" as confirmed by document

(21) "paints, Coatings and Solvents", second completely revised edition, 1998 (see page 5).

The term "surfactant" also comprises, beside "dispersants", also "defoamers", "emulsifiers" and "protective colloids" (see document (21), page 127).

The same is true for the term "dispersants". This term encompasses every material which can be used for preparing or stabilizing a dispersion and is unclear as confirmed by document

(24) "Formulierungstechnik", 1. Auflage, Hans Mollet, Arnold Grubenmann, pages 27-34, 147-156, 215-225 and 412-414, published on 28 October 1999 as confirmed by the e-mail

(25) from the editor dated 19 June 2009

(see pages 145 to 147 of this document).

The term "grinding aids" is not defined in the description, either. This term encompasses every substance which can assist in the milling process of a pigment. Therefore, solvents, surface or interfacial active agents, dispersants, antifoamers and so on fall under this term, given that these substances assist the grinding process.

The same is true for the term "lattices". In the absence of any further definition, any polymers which are soluble or dispersible in water are included in this term.

This also applies for the terms wetting agents and defoamers and for the substances indicated under surface treatment additives.

Appellant II also pointed out that in the proprietor's letter dated 24 December 2008, point 4, it was not denied that the ranges of the used terms were overlapping. This created ambiguity contrary to the requirements of Article 84 EPC.

For all these reasons, the requests do not offer a clear definition of the matter for which protection is sought.

- VIII. In the communication accompanying the summons for oral proceedings, the Board pointed out that *inter alia* documents (21) and (24) were filed with the statement of grounds of appeal and were likely to be admitted into the proceedings.
- IX. Appellant I requested that the decision under appeal be set aside and that the patent be maintained upon the basis of the main request or upon the basis of one of the auxiliary requests 1 to 7, all filed during oral procedures. In addition appellant I requested that documents (20) to (24) not be admitted into the proceedings, and, if these documents were admitted, that the case be remitted to the department of the first instance for further prosecution.

- X. Appellant II (opponent) requested that the decision under appeal be set aside and that the European patent No. 1 132 434 be revoked.
- XI. At the end of the oral proceedings, the decision of the board was announced.

Reasons for the Decision

1. The appeal is admissible.
2. *Documents (21) and (24) - Admissibility - Remittal*
 - 2.1 Documents (21) and (24) were submitted by appellant II with the statement of grounds of appeal and are parts of textbooks reflecting common general knowledge in this technical field. They are, therefore, admitted in the appeal proceedings in accordance with Article 13(1) RPBA (Supplement to OJ EPO 1/2010).
 - 2.2 Appellant I did not submit any reasons as to why these documents raised fresh issues justifying the remittal of the case to the department of first instance. The board can itself find no basis for such a remittal and therefore rejects the request of appellant I to remit the case to the department of first instance.

Main request

3. Amendments
 - 3.1 The word "comprising" used to characterize the milling mixture in claim 1 has been replaced by the expression

"...consisting essentially of...". Such an amendment is to be examined in the light of the requirements of Article 123(2) EPC.

3.2 This expression is not mentioned explicitly in the application as originally filed. Thus the board has to examine on the basis of the submissions of Appellant I whether it is directly and unambiguously derivable from the content of the application as originally filed.

3.3 The decisions of the Boards of Appeals cited by appellant I, namely T 759/91; T 522/91 and T 457/02 (all not published) do not relate to Article 123(2) EPC and are not relevant in that respect. The "Headnote" of the decision of the Enlarged Board of Appeal G 1/93 (OJ EPO 1994, 541) relates to a specific fact situation which is not analogous with that of the present case.

3.3.1 It is, therefore, concluded that in the absence of either an explicit or an implicit disclosure of a process involving a milling mixture "consisting essentially of", the process defined in Claim 1 of the main request extends beyond the content of the application as originally filed.

3.4 Hence, claim 1 of the main request contravenes the requirements of Article 123(2) EPC.

Auxiliary requests 1 to 3

4. Amendments

4.1 Claim 1 of the auxiliary requests 1 to 3 comprise the feature:

"the milling additive is selected from inorganic compounds, surfactants, dispersants other than the aromatic polyalkylene oxide dispersants specified above, wetting agents, defoamers, grinding aids, latices, or mixtures thereof, ... **or one or more inorganic and/or organic bases.**"

4.2 This feature was not present in the claims as granted and it must be verified whether or not the amendment complies with the requirements of Article 123(2) EPC in accordance with Article 101(3)(a) EPC.

4.3 The passage of the description illustrating the milling additives which could be added to the milling mixture reads as follows:

"Milling additives may also be added in conventional quantities (e.g., 0.1 % to 50% by weight relative to the pigment) to a milling mixture. Examples of suitable milling additives include inorganic compounds (such as metal salts), surfactants, dispersants other than the aromatic polyalkylene oxide dispersants specified above (such as sulfonamide, carboxamide, or aminoalkyl derivatives of organic pigments, particularly of perylenes, phthalocyanines, or quinacridones), wetting agents, defoamers, grinding aids, latices, or mixtures thereof. In certain cases, one or more inorganic and/or organic bases may be added, especially if the aromatic polyalkylene oxide dispersant contains acidic functional groups (see page 16, lines 15 to 23).

4.4 The description as originally filed states that "In certain cases, one or more inorganic and/or organic

bases may be added". This means that the elements following it, may be added to the elements preceding it. That "one or more inorganic and/or organic bases" are present **alone** as milling additive is not disclosed. The word "or" involves an alternative related to "one or more inorganic and/or organic bases" as a milling additive. This alternative, that the milling additive can only be **one or more inorganic and/or organic bases** extends beyond the content of the application as originally filed as already found by the opposition division (see point III above).

- 4.5 Consequently, claim 1 of the first to third auxiliary requests contravenes the requirements of Article 123(2) EPC.

Auxiliary requests 4 to 7

5. Amendments

- 5.1 The list corresponding to the milling additives which might be present in the milling mixture used in the claimed process has been limited by deletion of "in certain cases one or more inorganic and/or organic bases."
- 5.2 After this deletion, the list corresponding to the selected milling additives used in the milling mixture still contains several generic terms (see page 16, lines 16 to 21 of the application as originally filed). Such an amendment amounts only to a limitation of the claimed scope without creating any new subject-matter not disclosed in the description as originally filed.

- Furthermore, this point has not been objected by appellant II.
- 5.3 All the remaining claims being dependent on claim 1 in all these requests, the board concludes that the limitation of the additives to be added to the milling mixture fulfils the requirements of Article 123(2) EPC.
- 5.4 The word "comprising" to characterize the milling mixture, found in the application as originally filed, has been replaced by the word "consisting". The board must therefore examine whether this amendment is in accordance with Article 123(2) EPC.
- 5.5 As acknowledged by appellant I, the word "consisting" is not present in the application as originally filed. However, it can be inferred from the content of the description as originally filed that other constituents for the milling mixture are not clearly envisaged (see examples which all contain a pigment, a dispersant and a milling liquid; see also page 4, lines 4 to 10). Hence, the board considers that the limitation of the milling mixture to the constituents listed in claim 1 and on page 3, lines 16 to 25 of the description can be directly and unambiguously derived from the original description.
- 5.6 The replacement of the word "comprising" by the word "consisting" to characterize the milling mixture is in accordance with Article 123(2) EPC.
- 5.7 In conclusion, auxiliary requests 4 to 7 are in accordance with Article 123(2) EPC.

5.8 Furthermore, the board as well as appellant II consider that the requirements of Article 123(3) EPC are fulfilled, since all these amendments do not extend the protection conferred by the granted patent.

6. Clarity

6.1 Claims 1 of auxiliary requests 4 to 7 have in common the following features:

"(4) 0 to about 50% by weight, relative to the organic pigment, of one or more milling additives other than dispersant (2), and

(5) 0 to about 20% by weight, relative to the organic pigment, of one or more surface treatment additives, wherein

the milling additive is selected from, dispersants other than the aromatic polyalkylene oxide dispersants specified above, defoamers, grinding aids, latices, or mixtures thereof

and the surface treatment additive is selected from (see point V above)",

with the proviso which is not relevant for the present decision that a) the dispersants other than the aromatic polyalkylene oxide dispersants specified above are selected from sulfonamide, carboxamide, or aminoalkyl derivatives of organic pigments (see auxiliary request 5 to 7) and b) that the alcohols and diols are stearyl alcohols and dodecane-1,2-diol.

6.2 Those features were not present in the claims as granted and it must be verified whether or not the amendment complies with the requirements of Article 84 EPC.

- 6.3 Article 84 EPC states that the claims shall define the matter for which protection is sought. They shall be clear.
- 6.4 Contrary to appellant I's view, the fact that the milling additive and the surface treatment additive are optional plays no role in assessing whether or not the scope of the claim is clear. It remains that this scope includes protection for a process involving up to 50% by weight of milling additive and up to 20% by weight of surface treatment additive.
- 6.5 Contrary to appellant I's view, Article 84 EPC requires that the claims be clear *per se* without the need to refer to the description (see T 1129/97, OJ EPO 2001, 273, point 2.1.2). The approach taken by appellant I (see point VI above, last paragraph) would amount to a focus on what is concretely disclosed in the description and would disregard the generalisation which is the object of the claims. For instance, the concrete disclosure of an inorganic salt is given in the description as metal salts. Unless considering that the term "inorganic salt" in claim 1 means "metal salt", which the board does not agree with, the definition of an inorganic salt as a metal salt cannot help for defining the protection given by the term "inorganic salt".
- 6.6 Document (21) states under the section "*Wetting agents, Dispersants, and Antisetting agents*":
- "Wetting agents form one of the largest groups of coating additives. These are surfactants which aid

wetting of the pigments by the binders and prevent flocculation of the pigment particles. This leads to the formation of a uniform, haze-free colour and a uniformly high luster of the coating film. This group includes the dispersants, which give good pigment wetting and hence optimum dispersion of the pigments in the paint, thereby preventing sedimentation particularly of high-density pigments." (see bridging paragraph, pages 5-6).

However, acrylic copolymers are dispersants (see document (24), page 149, Table 5.18), whereas they are mentioned as "surface treatment additive" in claim 1.

There is, therefore, an overlap between the definition of dispersants as milling additive and the surface treatment additive.

The term "defoamer" also falls under the definition of milling additives. However "*Defoamers* reduce the surface tension of the liquid to such an extent that the air bubbles in the foam collapse. They include silicone oils, waxes, fatty acids." (see document (21), page 127, under the section **Auxiliaries**). Waxes and fatty acids are however mentioned as "surface treatment additive" in claims 1. There is, therefore, an overlap between the definition of defoamers as a milling additive and as a surface treatment additive.

The board also concurs with appellant II that the term "grinding aids" encompasses every substance which can assist the milling process of the pigment. Therefore, this term can include solvents, surface or interfacial active agents, dispersants, antifoamers and so on,

given that those substances help the grinding process. The same is true for the term "lattices". Any polymer which is soluble or dispersible in water can be encompassed. There is, therefore, an overlap between the definition of a grinding aid as a milling additive and as a surface treatment additive.

6.7 There is, therefore, a substantial overlap in the definitions of the substances defined as being grinding aids, defoamers, dispersants, lattices, **and** surface treatment additives, as pointed out by appellant II and acknowledged by appellant I.

6.8 However, the %-ranges, 0 to 50% by weight for the milling additive and 0 to 20% by weight for the surface treatment additive, are essential features in the corresponding claims since the sums of percentage of different ingredients selected for both groups must remain.

If a process involves the substance A up to 50% by weight as milling additive and an additional amount of the same substance A as surface treatment additive, there will be two arbitrary ways of classifying this additional amount of the same substance:

- as milling additive and in that case, the process will no longer fall within the claimed scope,
- as surface treatment additive and the process will be within the claimed scope.

6.9 Concretely speaking, as example, if 60% by weight of an acrylic copolymer is involved in the process, depending of the arbitrary choice whether the acrylic copolymer

is totally involved as milling additive (dispersant, 60% by weight) or is involved as 45% by weight as milling additive and 15% by weight as surface treatment additive, two totally different conclusion can be reached whether the resulting process is subject-matter for which protection is sought or not despite the process having identical features. These two contradictory conclusions are the result of the fact that some of the milling additives and surface treatment additives are classified arbitrarily as submitted by appellant II (see T 727/04, point 3 of the reasons, not published).

- 6.10 The same effect would be observed with other ingredients which can be classified arbitrarily as milling additives or surface treatment additives. For instance, waxes or fatty acids (see point 5.6 above).
- 6.11 Consequently claim 1 of auxiliary requests 4 to 7 fails to meet the requirement of Article 84 EPC.

Late-filing of request

7. After the conclusion of the board regarding the requests had been announced and before the debate was closed, appellant I asked for the opportunity to file further requests in order to make a further attempt to overcome the objections under Articles 123(2) and 84 EPC.

The objections under Articles 123(2) and 84 EPC were submitted by appellant II with its statement of grounds of appeal. Thus throughout the appeal proceedings, appellant I has been aware of these issues. The board

therefore considers that these objections do not constitute a fresh issue that would justify the filing of further claim requests at this late stage of the proceedings.

Thus the board exercises its discretion in accordance with Article 13(1) RPBA (Supplement to OJ EPO 1/2010) to reject appellant I's request for permission to file further claim requests.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar

The Chairman

M. Schalow

P. Ranguis