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D E C I S I O N
of 4 December 2001

Case Number: T 0815/01 - 3.3.5

Application Number: 94902110.9

Publication Number: 0684208

IPC: C01G 49/00

Language of the proceedings: EN

Title of invention:

Ultrafine iron-containing rutile titanium dioxide particle and process for producing the same

Applicant:

ISHIHARA SANGYO KAISHA, LTD.

Opponent:

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Headword:

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Relevant legal provisions:

EPC Art. 123(2)

Keyword:

"Grounds in the appealed decision no longer apply to amended claims filed at the appeal stage"

Decisions cited:

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Catchword:

-



Case Number: T 0815/01 - 3.3.5

D E C I S I O N
of the Technical Board of Appeal 3.3.5
of 4 December 2001

Appellant: ISHIHARA SANGYO KAISHA, LTD
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Nishi-ku
Osaka (JP)

Representative: Henkel, Feiler, Hänzel
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 15 February 2001
refusing European patent application
No. 94 902 110.9 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: R. K. Spangenberg
Members: M. M. Eberhard
M. B. Günzel

Summary of Facts and Submissions

I. European patent application No. 94 902 110.9 was refused by a decision of the examining division posted on 15 February 2001. The decision was based on amended claims 1 to 11 according to the main request and to the first auxiliary request both filed on 14 November 2000. Claim 1 of the main request reads as follows:

"1. Ultra-fine iron-containing rutile type titanium dioxide particles comprising rutile type crystalline titanium dioxide particles having an average single particle size of 0.01 to 0.1 μm and containing an iron component in solid solution in a crystal structure at a concentration of 1 to 15% by weight as expressed as Fe based on the titanium dioxide in the crystalline structure, and having a transmittance of ultraviolet rays of wavelengths in the range of from 380 to 320 nm in a range of from 18 to 36%."

Claim 1 of the auxiliary request differed from claim 1 of the main request only in that the range 18 to 36% was replaced by "18.8 to 35.3%".

II. The ground for the refusal was that the subject-matter of claim 1 of both requests did not meet the requirements of Article 123(2) EPC. The examining division held that the transmittance values of 18% and 36% were not disclosed in the application as filed. The rounding of the figures from 18.8% and 35.3% indicated in the examples to 18% and 36% respectively contravened Article 123(2) EPC. Concerning claim 1 of the first auxiliary request, the examining division took the view that there was no support in the original application for claiming particles having both the properties

stated in claim 1 and the additional requirement regarding the transmittance. The two examples related to very specific situations involving specific preparation conditions. The extrapolation made from the limiting teaching regarding two individual compositions to construct artificially a range which should apply to any product encompassed within the general definition of claim 1 was contrary to the requirements of Article 123(2) EPC.

According to the decision, even if the transmittance values were deleted in claim 1, the claims would then be open to objections under Article 52(1) for the reasons indicated in the communications and based on the disclosure of D4 (JP-A-48-67196).

III. The appellant lodged an appeal against this decision. He submitted a new set of claims as the main request with the grounds of appeal on 22 June 2001, as well as comparative experiments. Claim 1 of this request reads as follows:

"1. Ultra-fine iron-containing rutile type titanium dioxide particles comprising rutile type crystalline titanium dioxide particles having an average single particle size of 0.01 to 0.1 μm and containing an iron component in solid solution in a crystal structure at a concentration of 1 to 15% by weight expressed as Fe based on the titanium dioxide in the crystalline structure, said iron-containing rutile type titanium dioxide particles being obtainable by a process comprising a first step of neutralizing a water soluble salt of iron in the presence of a fine titania sol comprising rutile crystallites to precipitate hydrated iron oxide onto the surfaces of the titania particles

in an amount of 1 to 15% Fe by weight based on the titanium dioxide and a second step of separating the product from the first step and firing the product at a temperature of 300 to 850°C."

- IV. Concerning the allowability of the amendments in amended claim 1, the appellant argued in the grounds of appeal that new claim 1 was based on claim 1 as originally filed. The feature "in solid solution in a crystalline structure" was supported inter alia by the description, page 4, lines 12 to 13. Furthermore claim 1 was now drafted as a product-by-process claim in order to clearly delimit the subject-matter of the present application from D4. The appellant further presented arguments concerning the novelty and inventive step of the claimed subject-matter with respect in particular to D4.
- V. On 21 November 2001 the board informed the appellant's representative of its intention to set aside the decision appealed and to remit the case to the examining division for further prosecution. The appellant was asked whether or not the request for oral proceedings was maintained in these circumstances. The appellant indicated by a letter dated 27 November 2001 that he withdrew his auxiliary request for oral proceedings.
- VI. The appellant requested that the appealed decision be set aside and that the case be remitted to the examining division for further examination.

Reasons for the Decision

1. The appeal is admissible.
2. The features concerning the transmittance as defined in the claims of 14 November 2000 and considered by the examining division to contravene Article 123(2) EPC are not stated in claims 1 to 11 now on file. Therefore, the grounds given in the appealed decision no longer apply to present claims 1 to 11.

Claims 1 to 8 meet the requirements of Article 123(2) EPC. Claim 1 is based on the combination of the features of claims 1 and 3 of the application as originally filed with an additional feature disclosed in the original description. The additional feature that the particles contain an iron component "in solid solution in a crystal structure" is disclosed inter alia on page 4, second paragraph (see in particular lines 12 to 13) and on page 5, lines 23 to 25, of the application as filed. Claims 2 to 8 correspond to original claims 2 to 8.

3. The question whether or not the product-by-process claim now on file meets the requirements of patentability set out in Article 52(1) EPC was not examined by the first instance. Furthermore, the appellant has sent additional comparative experiments with the grounds of appeal. In these circumstances, the board, in the exercise of its discretionary power pursuant to Article 111(1) EPC, finds it appropriate to remit the case to the examining division for further prosecution on the basis of claims 1 to 11 submitted on 22 June 2001.

In connection with dependent claims 9 to 11, which are identical to claims 9 to 11 of the two requests filed

on 14 November 2000, the board observes that the examining division raised no objection against these claims under Article 123(2) EPC or Article 84 EPC. Concerning claims 9 and 10, it should be examined whether the feature "an aqueous solution of titanium tetrachloride **containing** 150 to 220 g/l of titanium dioxide" indicated in claim 9 or the feature "titanium chloride **containing** 150 to 220g/l of titanium oxide" stated in claim 10 meets the requirement of clarity. The word "containing" used in this context would appear to be ambiguous. Concerning claim 10, the question further arises whether or not the use of any kind of titanium chloride and alkaline solution for the neutralisation step is disclosed in the description as filed. As regards claim 11, the question arises whether or not there is a support in the original application (i) for the feature "the resulting solution" and (ii) for heating to the boiling point of the hydrochloric acid solution.

Order

For these reasons it is decided that:

1. The decision of the examining division is set aside.
2. The case is remitted to the examining division for further prosecution on the basis of claims 1 to 11 filed on 22 June 2001.

The Registrar:

The Chairman:

U. Bultmann

R. Spangenberg