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D E C I S I O N
of 2 March 2004

Case Number: T 0440/01 - 3.3.1

Application Number: 92108698.9

Publication Number: 0514932

IPC: C07C19/08

Language of the proceedings: EN

Title of invention:
Chromium oxide fluorination catalyst and process for fluroinating halogenated hydrocarbon

Patentee:
DAIKIN INDUSTRIES, LTD.

Opponent:
Solvay (Société Anonyme)

Headword:
Fluorination catalyst/DAIKIN INDUSTRIES

Relevant legal provisions:
EPC Art. 100(c)
Art. 11(3) Rules of Procedure

Keyword:
"Main request: claimed subject-matter of the patent as granted extending beyond the content of the application as filed (yes)"
"Auxiliary request: admissibility (no) - substantially modified request filed for the first time during oral proceedings"

Decisions cited:
G 0009/91, T 0201/83, T 0840/93, T 0401/95

Catchword:
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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0440/01 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 2 March 2004

Appellant: (Proprietor of the patent)	DAIKIN INDUSTRIES, LTD. Umeda Center Building 4-12, Nakazaki-nishi 2-chome Kita-ku Osaka 530 (JP)
Representative:	Hansen, Bernd, Dr. Dipl.-Chem. Hoffman Eitle, Patent- und Rechtsanwälte Postfach 81 04 20 D-81904 München (DE)
Respondent: (Opponent)	Solvay (Société Anonyme) Rue du Prince Albert, 33 B-1050 Bruxelles (BE)
Representative:	Jacques, Philippe Solvay S.A. Départment de la Propriété Industrielle Rue de Ransbeek, 310 B-1120 Bruxelles (BE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted 21 February 2001 revoking European patent No. 0514932 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: A. J. Nuss
Members: P. F. Ranguis
R. T. Menapace

Summary of Facts and Submissions

I. The Appellant (Proprietor of the patent) lodged an appeal against the decision of the Opposition Division to revoke the European patent No. 0 514 932 (European patent application No. 92 108 698.9) pursuant to Article 102(1) EPC on the ground that the subject-matter of the European patent extended beyond the content of the application as filed and, therefore, gave rise to objections under Article 100(c) EPC.

II. The European patent contained nine claims. Independent Claim 1 of the patent read as follows:

"1. A fluorination catalyst consisting essentially of a fluorinated chromium oxide, said chromium oxide having, before the fluorination pretreatment, a specific surface area of from 170 to 241 m^2/g and said chromium oxide having been produced from chromium hydroxide having a density of 0.6 to 1.1 g/ml".

III. In its decision, the Opposition Division held that, as regards the problem addressed in the application as filed, namely increasing the activity and/or the life of fluorination catalysts, there was no information in the application as originally filed regarding the technical contribution of an upper limit to the solution of the technical problem. By contrast, the application as originally filed, including the examples and Figure 2, taught that the upper limit of the specific surface area of the catalyst was not critical. It followed that the selection of the upper value of 241 g/m^2 present in Claim 1 as granted, and disclosed in

Example 1, could not be directly and unambiguously deduced from the application as originally filed.

IV. At the oral proceedings which took place on 2 March 2004, the Appellant filed as auxiliary request a set of nine claims. Independent Claim 1 of this auxiliary request read as follows:

"1. A fluorination catalyst consisting essentially of a fluorinated chromium oxide, which is obtainable by a process comprising the steps of

i) precipitating chromium hydroxide by mixing an aqueous solution of a chromium salt with aqueous ammonia and drying the precipitate, such that the density of the chromium hydroxide is 0.6-1.1 g/ml and the specific surface area thereof is 100-220 m^2/g after degassing at 200°C for 80 min.;
ii) sintering the chromium hydroxide in an atmosphere of an inert gas at a temperature of 360-460°C to obtain an chromium oxide having a specific surface area of at least 170 m^2/g, and
iii) fluorinating the chromium oxide by treating it with hydrogen fluoride at a temperature of 100-460°C".

V. The arguments of the Appellant submitted at the oral proceedings and in the written proceedings may be summarised as follows:

Regarding the main request, the limitation of the specific surface area (SSA) to the value of 241 m^2/g for the chromium oxide could be deduced by the person skilled in the art from the application as originally filed. The value of 241 m^2/g was explicitly disclosed in

Example No. 1. A plurality of further examples having SSA values below 241 m^2/g, but not less than the originally claimed lower limit of 170 m^2/g, was provided in Examples 2 and 3 as well as in Example 6 (together with Fig. 2) and in Example 8 (together with Fig. 4). It was clear that the description of the examples represented a preferred range within a broader general range defined and claimed in the application as originally filed.

Furthermore, the selection of the limiting SSA value of 241 m^2/g from an explicit example was allowable since this value could be recognized by the person skilled in the art as not being so closely associated with the other feature of the example as to determine the effect of that embodiment of the invention as a whole, in a unique manner and to a significant degree. In that respect, Claim 1 did not specify the amorphous state of chromium oxide and the powder density of the chromium hydroxide since there was no strict relationship between the SSA and those features. No correlation could be seen between the SSA and the powder density in the examples. The powder density was rather related to the strength of the pellet produced from the powder whereas the SSA correlated with the catalytic activity, irrespective of the density of the chromium hydroxide used for the production of the respective catalysts. In view of this loose connection between the SSA and other features of the claimed invention, the person skilled in the art would have treated the SSA as a feature which could be considered separately.

Regarding the auxiliary request, the new wording of Claim 1 did not necessitate any longer the indication of an upper limit. The subject-matter of such Claim 1 did not extend the protection of the patent as granted.

VI. The arguments of the Respondent (Opponent) may be summarised as follows:

There was a close relationship between the specific surface area of the chromium oxide and the density of the chromium hydroxide, additionally the fact that the method of preparation of the catalyst was also an important feature (reaction rate of the precipitation reaction). The value of 241 m^2/g had been singled out of the context of the example to form an intermediate generalization not disclosed in the application as originally filed.

The subject-matter of Claim 1 of the auxiliary request raised questions about its compliance with Article 123(3) EPC. This might require further experiments. This request should not be admitted into the proceedings at this stage.

VII. The Appellant requested that the decision under appeal be set aside and that the patent be maintained either as granted (main request) or on the basis of the auxiliary request submitted during the oral proceedings.

The Respondent requested that the appeal be dismissed.

VIII. At the end of the oral proceedings, the decision of the Board was announced.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. *Article 100(c) EPC - Amendments*

2.1 The question to be decided is whether or not the objections pursuant to Article 100(c) EPC against the specific surface area (SSA) upper limit of 241 m^2/g present in Claim 1 as granted (cf. point II above) are well-founded.

2.2 The Appellant, relying upon the decision T 201/83 of the Board of Appeal (cf. OJ EPO 1984, 481), argued that the specific surface area value of 241 m^2/g explicitly disclosed in Example No. 1 could be recognized by the person skilled in the art as not so closely associated with the other feature of the example as to determine the effect of that embodiment of the invention as a whole, in a unique manner and to a significant degree. No correlation could be seen between the SSA and the powder density in the Examples 1-3.

2.3 The Board observes first, that this value of 241 m^2/g derives from the specific surface area of the chromium oxide obtained according to the method of preparation disclosed in Example No. 1. This process comprises several steps involving first, the preparation of a powder of chromium hydroxide having a density of 0.80 g/ml, then sintering said powder to obtain

amorphous chromium oxide having a specific surface area of 241 m^2/g. The thus obtained chromium oxide is further fluorinated to obtain a catalyst having a fluorine content of 15.6 % by weight (cf. page 10, line 13 to page 11, line 11 of the patent in suit). Contrary to the Appellant's view, it can only be derived from that example that the specific surface area of the chromium oxide is directly related to the density of the chromium hydroxide precursor.

2.4 Furthermore, all the examples show that for each powder density of the chromium hydroxide, a different specific surface area of the chromium oxide is obtained. In other words, there is no example showing that from a particular density of the chromium hydroxide, several specific surface areas of the chromium oxide are obtained. The description is silent in that respect, indicating only that from a powder of chromium hydroxide having a density within the range of 0.6 to 1.1 mg/ml a chromium oxide having a specific surface area of **at least** 170 m^2/g (emphasis added by the Board) is obtained (cf. page 4, lines 1 to 4 and page 5, lines 24 to 25).

2.5 Therefore, the substantial degree of interdependence between chromium hydroxide and chromium oxide leads the Board to conclude that those two precursors are closely related with each other and control the features of the fluorinated chromium oxide. It follows that the particular value of SSA for chromium oxide before fluorination treatment described in Example No. 1 is not a proper basis for an allowable amendment without also introducing the density value of the chromium hydroxide from which that chromium oxide was derived.

2.6 Nor can the decision T 201/83 cited by the Appellant lead to a different conclusion:

The case which led to the decision T 201/83 related to a lead alloy. That Board held that in the claimed lead alloy, the two ingredients, i.e. magnesium and calcium, had different roles, namely there was a loose connection between particular calcium and magnesium content with regard to the effect, and for these reasons considered that an amendment of a concentration range in a claim for a mixture was allowable on the basis of a particular value of calcium described in a specific example. That Board however added that this case was to be distinguished from other types of combination products where a particular choice of a limit for a parameter restricted the choice for another one (cf. point 6 of the reasons). In the present case however the chromium hydroxide and the chromium oxide before fluorination do not play different roles in the claimed fluorinated catalyst. On the contrary, as set out above, the fluorinated chromium oxide derives its characteristics from those of the chromium hydroxide and chromium oxide before fluorination. In other words, the choice of a particular starting chromium hydroxide restricts the choice for the chromium oxide before fluorination which, in turn, determines the properties of the subsequently fluorinated chromium oxide. The present case is, therefore, different from that decided in T 201/83. The conclusions of the Board in the present case are, therefore, not in conflict with the prior decision T 201/83.

2.7 It follows that the incorporation in Claim 1 of a specific value of specific surface area derived from an example, here 241 m^2/g, in association with the whole range of density of chromium hydroxide powder, here 0.6 to 1.1 mg/ml, creates an intermediate generalization not directly and unambiguously derivable from the application as originally filed since as set out above the SSA value of 241 m^2/g is intimately linked to the specific powder density of the starting chromium hydroxide, i.e 0.8 g/ml.

2.8 For the above reasons, the subject-matter of Claim 1 of the patent in suit is indeed objectionable under Article 100(c) EPC. Since the Board can only decide on a request as a whole, the main request is to be refused.

Auxiliary request

3. *Admissibility*

3.1 The present request was submitted at the oral proceedings before the Board. The Appellant did not provide any justification for such late filing.

3.2 The Respondent objected to the admissibility into the appeal proceedings of said request as submitted during the oral proceedings before the Board for being late filed.

3.3 In respect of this auxiliary request, the Board would like to observe that the purpose of the appeal procedure in an *inter partes* case is mainly to give the losing party the possibility of challenging the decision of the Opposition Division on its merits (cf.

G 9/91, OJ EPO 408, point 18 of the reasons). The appealing Proprietor of the patent, unsuccessful before the Opposition Division, thus has the right to have the rejected requests reviewed by the Board of Appeal. If he wants, however, other requests to be considered, admission of these requests into the proceedings is a matter of discretion of the Board of Appeal, and is not a matter of right (cf. T 840/93, OJ EPO 1996, 335, point 3.1 of the reasons). For exercising due discretion in respect of the admission of requests by the appealing Proprietor of the patent that were not before the Opposition Division, it is established case law of the Boards of appeal that the crucial criteria are whether or not the amended claims of those requests are clearly allowable and whether or not those amended claims give rise to fresh issues which the other party, i.e. the Respondent-Opponent, and the deciding Board can reasonably be expected to deal with properly without unjustified procedural delay (cf. Case Law of the Boards of Appeal of the European Patent Office, 4th edition 2001, VII. D. 14.2.2, in particular T 401/95, point 5.2).

3.4 In present Claim 1 (cf. point IV above), additional process features yielding a chromium oxide having a specific surface area of at least 170 m^2/g have been incorporated whereas the upper limit of specific surface area of the chromium oxide, i.e. 241 m^2/g, included in Claim 1 as granted (cf. point II above), was deleted with the argument that this upper limit could be dispensed of.

3.5 These changes in the subject-matter claimed raises the question whether or not a shift in the protection occurred due to these amendments in view of the requirements of Article 123(3) EPC which states that no extension of the protection conferred must result therefrom. In the present situation, the latter would only be the case if it were certain that with the process features now defined the chromium oxide, before the fluorination treatment, had a SSA not higher than 241 m^2/g. Neither the dependent claims of the patent as granted, nor the content of the application as originally filed including the figures can *prima facie* provide a clear answer to this issue directly arising out of the amendments made. It is noted that the essential features now present in Claim 1 were never submitted as amendments in the opposition proceedings. Thus, the object of Claim 1 of the auxiliary request amounts to a fresh case which, if admitted, would require the remittal of the case to the first instance for further prosecution in view of the necessity to start the whole opposition procedure anew on the basis of the claims of this request. This would not only cause considerable procedural delay but also prevent the Board from taking a final decision at the end of the oral proceedings.

3.6 However, if oral proceedings take place, the Board shall endeavour to ensure that the case is ready for decision at the conclusion of the oral proceedings, unless there are special reasons to the contrary (cf. Article 11(3) of the Rules of Procedure of the Boards of Appeal, (OJ EPO 1983, 7)) which is clearly not the case here as follows from the above considerations.

3.7 For the above reasons, the Board exercises its discretion not to admit the Appellant's auxiliary request into the proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

N. Maslin A. Nuss