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Datasheet for the decision of 20 May 2019

Case Number: T 1230/16 - 3.3.10

Application Number: 12000530.1

Publication Number: 2465909

IPC: C09K5/04

Language of the proceedings: EN

Title of invention:
Refrigerant composition comprising 1,1,1,2-tetrafluoroethane (HFC134a) and 2,3,3,3-tetrafluropropene (HFO1234yf)

Patent Proprietor:
Daikin Industries, Ltd.

Opponents:
E.I. DUPONT DE NEMOURS AND COMPANY
Mexichem Amanco Holding S.A. de C.V.

Headword:

Relevant legal provisions:
EPC Art. 100(b), 111(1)

Keyword:
Insufficiency of disclosure (no) - alleged technical effect not a feature of the claims
Remittal (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

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Case Number: T 1230/16 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 20 May 2019

Appellant: (Patent Proprietor)	Daikin Industries, Ltd. Umeda Center Building 4-12, Nakazaki-Nishi 2-chome Kita-ku Osaka-shi Osaka 530-8323 (JP)
Representative:	Hoffmann Eitle Patent- und Rechtsanwälte PartmbB Arabellastraße 30 81925 München (DE)
Respondent: (Opponent 1)	E.I. DUPONT DE NEMOURS AND COMPANY 1007 Market Street Wilmington DE 19898 (US)
Representative:	Morf, Jan Stefan Abitz & Partner Patentanwälte mbB Arabellastrasse 17 81925 München (DE)
Respondent: (Opponent 2)	Mexichem Amanco Holding S.A. de C.V. Rio San Javier No. 10 Fraccionamiento Viveros del Rio Tlalnepantla, Estado de Mexico C.P. 54060 (MX)
Representative:	Potter Clarkson The Belgrave Centre Talbot Street Nottingham NG1 5GG (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 18 March 2016**

revoking European patent No. 2465909 pursuant to Articles 101(2) 101(3)(b) EPC.

Composition of the Board:

Chairman	P. Gryczka
Members:	R. Pérez Carlón
	F. Blumer

Summary of Facts and Submissions

I. The appellant (patent proprietor) lodged an appeal against the decision of the opposition division revoking European patent No. 2 465 909. The appellant requested that the decision under appeal be set aside and that the patent be maintained as granted (main request) or on the basis of any of auxiliary requests 1 to 16 as filed with the statement setting out the grounds of appeal.

II. Two notices of opposition had been filed *inter alia* on the ground of insufficiency of disclosure of the invention (Article 100(b) EPC).

III. Claim 1 of the patent as granted reads as follows:

"Use of a refrigerant composition in industrial/ household air-conditioners, wherein the refrigerant composition comprises 36 to 50 mass% of 1,1,1,2-tetrafluoroethane (HFC134a) and 50 to 64 mass% of 2,3,3,3-tetrafluoropropene (HFO1234yf)."

IV. The opposition division concluded that the claimed invention was not disclosed in a manner sufficiently clear and complete for it to be carried out by the person skilled in the art. It was essential to the invention that the composition required by claim 1 was not flammable, but claim 1 contemplated the use of mixtures comprising further components which could be flammable. The patent in suit did not disclose how to select these suitable compositions (e.g., non-flammable ternary compositions).

V. The arguments of the appellant where relevant for the present decision were as follows:

Claim 1 related to the use of binary mixtures which excluded the presence of any further refrigerant. For this reason, the issue of flammability did not arise.

In any case, the patent in suit provided sufficient information to carry out the invention, and the selection of further components for the compositions required by claim 1 would have been within the skills of the person of the art.

VI. The arguments of the respondents where relevant for the present decision were as follows:

Only non-flammable compositions were suitable for the claimed use, but claim 1 was not restricted in this respect. The patent in suit did not provide a single example of the claimed use, did not teach how to choose additional components, and did not disclose which technical measures were needed if a flammable mixture was used or how to measure any potential flammability. For these reasons, the claimed invention was not sufficiently disclosed for it to have been carried out by the person skilled in the art.

VII. The board informed the parties in a communication dated 27 August 2018 that it was inclined to consider the claimed invention as sufficiently disclosed. It further informed the parties that if arrived at the conclusion that any admissible request did not contain added subject-matter and was clear and sufficiently disclosed, it would remit the case to the opposition division for further prosecution.

VIII. The respondents withdrew their requests for oral proceedings by letters of 10 January 2019 and

21 February 2019. In their responses to the grounds of appeal, the respondents had requested that the appeal be dismissed.

IX. The appellant, in its letter of 13 March 2019, requested that the decision under appeal be set aside and that the case be remitted to the opposition division for further prosecution on the basis of the main request (claims as granted). If the board intended to allow this request, the appellant requested that the oral proceedings be cancelled and that the decision be taken in writing only. On an auxiliary basis, the appellant maintained its requests that the decision under appeal be set aside and that the patent be maintained as granted or on the basis of any of auxiliary requests 1 to 16.

X. The board cancelled the oral proceedings.

Reasons for the Decision

1. The appeal is admissible.

Sufficiency of disclosure

2. Interpretation of claim 1

2.1 Claim 1 of the patent as granted is directed to the use of a refrigerant composition in industrial/household air-conditioners, this composition comprising defined relative amounts of 1,1,1,2-tetrafluoroethane ("134a") and 2,3,3,3-tetrafluoropropene ("1234yf").

2.2 The appellant argued that claim 1 as granted was limited to the use of binary mixtures of 134a and 1234yf, despite the open wording of claim 1

"comprising". The skilled reader, noting that the mass percentages defined in claim 1 added up to 100%, would inevitably have concluded that the use of claim 1 was limited to binary refrigerant mixtures. If any other components were present in the composition, they must necessarily have a different function, such as that of stabilisers or polymerisation inhibitors. Claim 1 was in fact equivalent to the use of a composition comprising the refrigerants 134a/1234yf at a mass ratio of 36/64 to 50/50.

2.3 The respondents did not accept that granted claim 1 was limited to the use of binary refrigerant mixtures. However, clarity of the granted claims is not an issue in these proceedings,and the interpretation of the claims pending may require further discussion. As explained below in point 3, the board came to the conclusion that the invention as claimed in the patent as granted is sufficiently disclosed even if the broader interpretation used by the respondents were accepted.

3. Sufficiency of disclosure

3.1 According to the description of the patent in suit, the claimed invention relates to the use of non-flammable compositions (paragraph [0009], point (2)). However, claim 1 does not include any flammability requirement in its wording.

3.2 The issue under sufficiency hinges on whether the skilled person would have been in a position to use compositions comprising the relative amounts of the components defined by claim 1 in industrial/household air- conditioners.

It is not in dispute that industrial/household air-conditioners were state of the art, or that the skilled person would have known how to use them. The question is whether the skilled person would have been taught how to select compositions containing 123a and 1234yf in the relative amounts defined in claim 1 suitable for the claimed use.

3.3 It is not in dispute that binary mixtures such as those of the examples of the patent in suit are suitable for the claimed use. Taking into account this teaching, the person skilled in the art of refrigeration compositions would have encountered no difficulty in finding further reliably working embodiments of the claimed invention, for example by choosing different relative amounts of 123a and 1234yf within the boundaries set by claim 1, or by including further components known to be suitable for that use.

If flammability were to be considered an essential feature of such compositions (see also the next point below), the board fails to see which difficulties could be found in avoiding flammable components.

3.4 The respondents argued that the patent in suit disclosed that flammable compositions were not suitable for the claimed use. According to their interpretation, since claim 1 did not exclude those non- working embodiments, and the patent in suit even disclosed flammable additives such as 1,4-dioxane as suitable, the claimed invention was not sufficiently disclosed.

However, the patent in suit discloses in paragraphs [0006] and [0009] that flammable refrigerants require apparatuses made of highly safe material. Thus, neither the patent in suit nor the available prior art

discloses that the claimed use could only be put into practice with non-flammable compositions. In addition, the patent in suit indicates which measures would be required in such a circumstance, namely the use of highly safe air- conditioners. The patent in suit thus discloses that non-flammable compositions are preferable; not that flammable compositions could not be used in air- conditioning equipment.

This argument is thus not convincing.

3.5 The respondents also argued that the tests provided in the patent in suit would not have allowed the skilled reader to determine the flammability of a refrigerant composition in a reliable and reproducible way.

Whether the results of those tests are reliable and reproducible is not an issue which could affect the sufficiency of the disclosure of the invention either, as lack of flammability of the required composition is not a feature of claim 1, either explicitly (which is not in dispute) or implicitly (for the reasons given in the preceding point).

3.6 The respondents argued that the patent in suit did not provide any example of the claimed use. The claimed invention was also for this reason not sufficiently disclosed.

However, it is not in dispute that the skilled person would have known how to design and operate an industrial/household air-conditioner. The examples of the patent in suit aim at showing that the compositions defined in claim 1 are non-flammable, which is the effect sought by the claimed invention. The skilled person would not have needed further technical

information to carry out the invention. This argument is not convincing either.

3.7 For these reasons, it is concluded that the claimed use was sufficiently disclosed for it to have been carried out by the person skilled in the art, with the consequence that the ground under Article 100(b) EPC does not preclude the maintenance of the patent as granted.

Remittal

4. Since the decision under appeal has not dealt with all the grounds for opposition, the board considers it appropriate to remit the case to the opposition division for further prosecution on the basis of the patent as granted (Article 111(1) EPC), according to the appellant's main request. None of the respondents objected to such remittal.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The file is remitted to the opposition division for further prosecution on the basis of the patent as granted.

The Registrar: The Chairman:

A. Pinna P. Gryczka

Decision electronically authenticated