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**Datasheet for the decision  
of 2 December 2008**

**Case Number:** T 1403/05 - 3.3.10

**Application Number:** 95903403.4

**Publication Number:** 0734366

**IPC:** C07C 17/20

**Language of the proceedings:** EN

**Title of invention:**  
Production of pentafluoroethane

**Patentee:**  
Ineos Fluor Holdings Limited

**Opponent:**  
RHODIA CHIMIE  
ARKEMA FRANCE  
Honeywell International Inc.  
E.I. DU PONT DE NEMOURS AND COMPANY

**Headword:**  
Production of pentafluoroethane/INEOS FLUOR

**Relevant legal provisions:**  
EPC Art. 123(2)

**Keyword:**  
"Amendments: all requests (not allowable) - not unambiguously derivable from application as filed"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 1403/05 - 3.3.10

**DECISION**  
of the Technical Board of Appeal 3.3.10  
of 2 December 2008

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**Decision under appeal:**              **Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
12 September 2005 concerning maintenance of  
European patent No. 0734366 in amended form.**

**Composition of the Board:**

**Chairman:**                      R. Freimuth  
**Members:**                      J. Mercey  
   F. Blumer

## **Summary of Facts and Submissions**

- I. Appellant I (Opponent 3), Appellant II (Opponent 2) and Appellant III (Opponent 4) lodged appeals on 3 November 2005, 10 November 2005 and 14 November 2005, respectively, against the interlocutory decision of the Opposition Division posted on 12 September 2005 which found that European patent No. 734 366 in amended form met the requirements of the EPC.
  
- II. Notice of Opposition had been filed by the Appellants and the Party as of right (Opponent 1) requesting revocation of the patent as granted in its entirety on the grounds of lack of novelty and lack of inventive step (Article 100(a) EPC), of insufficient disclosure (Article 100(b) EPC) and of extending the subject-matter of the patent in suit beyond the content of the application as filed (Article 100(c) EPC).
  
- III. The Opposition Division held that the amendments made to the then pending main request fulfilled the requirements of Articles 84 and 123(2) EPC. It also held that the invention was sufficiently disclosed, that the subject-matter was novel and involved an inventive step.
  
- IV. With letter dated 9 August 2006, the Respondent (Proprietor of the patent) filed a main request and auxiliary requests 1 to 5, and at the oral proceedings before the Board, held on 2 December 2008, it filed auxiliary request 6. Independent claim 1 of the main request reads as follows:

"1. A continuous process for the production of pentafluoroethane which comprises the steps of:

- (i) in a first reactor reacting perchloroethylene with hydrogen fluoride at elevated temperature in the vapour phase in the presence of a fluorination catalyst to produce a composition comprising a compound of formula  $C_2HCl_xF_y$ , in which  $x = 1, 2$  or  $3$  and  $y = 2, 3$  or  $4$  provided that  $x + y$  is  $5$ , including dichlorotrifluoroethane, contaminated with compounds of formula  $C_2Cl_{x+1}F_y$ , including dichlorotetrafluoroethane and trichlorotrifluoroethane;
- (ii) subjecting the composition from step (i) to a separation step in which the dichlorotrifluoroethane is separated from the compounds of formula  $C_2Cl_{x+1}F_y$ , including dichlorotetrafluoroethane and trichlorotrifluoroethane, to yield a composition comprising dichlorotrifluoroethane and hydrogen fluoride and less than 1 weight % of compounds of formula  $C_2Cl_{x+1}F_y$  based on the total weight of compounds of formula  $C_2HCl_xF_y$  and  $C_2Cl_{x+1}F_y$  present in the composition; and
- (iii) in a second reactor reacting the dichlorotrifluoroethane separated in step (ii) with hydrogen fluoride at elevated temperature in the vapour phase in the presence of a fluorination catalyst so as to produce a pentafluoroethane composition containing less than 1 weight % of chloropentafluoroethane based on the total weight of chloropentafluoroethane and pentafluoroethane produced, wherein steps (i), (ii) and (iii) are effected in that order."

Claim 1 of the auxiliary requests 1 and 6 also both comprised in step (iii) the feature "in a second reactor reacting the dichlorotrifluoroethane separated in step (ii)". Claim 1 of the auxiliary requests 2 to 5 differed from claim 1 of the main and auxiliary requests 1 and 6 *inter alia* in that the wording of said feature in step (iii) was amended to "passing the composition separated in step (ii) to a second reactor and reacting the dichlorotrifluoroethane".

V. Appellants I and II argued that at least the feature in step (iii) of claim 1 that "reacting the dichlorotrifluoroethane separated in step (ii)" did not fulfil the requirements of Article 123(2) EPC, since there was no basis in the application as filed for said feature *per se*, let alone in combination with many of the other features of the claim, for example, with the process being continuous, perchloroethylene being reacted in step (i), and the specified order of the steps.

VI. The Respondent submitted that claim 1 of all requests did not offend against the requirements of Article 123(2) EPC, since it was disclosed at page 4, lines 19 to 20 of the application as filed that compounds of formula  $C_2HCl_xF_y$  recovered from separation step (ii) were fed to step (iii), at page 9, line 12 that dichlorotrifluoroethane was separated in step (ii) and at page 16, lines 2 to 5 and 21 to 24 that dichlorotrifluoroethane separated from a first reactor product was fed to a second reactor. Furthermore, since dichlorotrifluoroethane was repeatedly mentioned in the application as filed, its use in step (iii) was evident to the skilled person.

At the oral proceedings before the Board, the Respondent did not maintain its objection to the admissibility of the appeal filed by Appellant I.

VII. The Party as of right made no submissions as to the substance of the appeal, nor did it file any requests.

VIII. The Appellants requested that the decision under appeal be set aside and the patent be revoked.

The Respondent requested that the decision under appeal be set aside and the patent be maintained on the basis of the main request, or, subsidiarily, on the basis of any of the auxiliary requests 1 to 5, all such requests filed with letter dated 9 August 2006, or on the basis of auxiliary request 6 filed during the oral proceedings before the Board.

IX. Oral proceedings were held in the absence of Appellant III and the Party as of right, who, after having been duly summoned, informed the Board by their letters dated 14 October 2008 and 27 August 2008, respectively, that they would not attend. At the end of the oral proceedings, the decision of the Board was announced.

## **Reasons for the Decision**

1. The appeal is admissible.

2. *Article 123(2) EPC*

2.1 It is established jurisprudence of the Boards of Appeal that an amendment to a claim offends against Article 123(2) EPC, if the amended subject-matter is not directly and unambiguously derivable from the application as filed.

*Main request*

2.2 Claim 1 of the main request has been amended *vis-à-vis* claim 1 as granted *inter alia* in that in step (iii) of the process, the feature "contacting the compound of formula  $C_2HCl_xF_y$ " has been replaced by "reacting the dichlorotrifluoroethane separated in step (ii)".

2.3 According to the Respondent, the basis for this amendment was to be found at page 4, lines 19 to 20 of the application as filed, wherein it was disclosed that compounds of the formula  $C_2HCl_xF_y$  recovered from separation step (ii) were fed to step (iii). However, the generic formula  $C_2HCl_xF_y$  is not tantamount to the individual compound dichlorotrifluoroethane. Accordingly, although comprised within this generic formula, there is no specific disclosure of the individual compound dichlorotrifluoroethane, such that this passage cannot provide a basis for reacting the compound dichlorotrifluoroethane separated in step (ii) in step (iii).

The Respondent further argued that basis for the individual compound dichlorotrifluoroethane was to be found at page 9, line 12 of the application as filed. However, this passage merely discloses that



dichlorotrifluoroethane, together with hydrogen fluoride and other heavies, may be separated as a bottom fraction in step (ii) of the process. It does not disclose its subsequent feeding to step (iii) and thus cannot provide a basis for its reaction in step (iii) of the claimed process.

The Respondent also argued that the basis for dichlorotrifluoroethane being separated from a first reactor product and being fed to a second reactor was to be found at page 16, lines 2 to 5 and 21 to 24 of the application as filed. However, these passages are taken from detailed descriptions of Figures 4 and 5, respectively, which describe very particular embodiments of the invention, where the dichlorotrifluoroethane is described only in combination with many other specific intermediate products and process features. The skilled person would thus have inextricably linked this particular intermediate product with all the other products produced in the particular processes described on page 16, such that the extraction of this specific feature from these particular embodiments and its insertion into the more general process of claim 1 provides the skilled person with technical information which is not directly and unambiguously derivable from the application as filed.

Finally, the Respondent argued that since dichlorotrifluoroethane was repeatedly mentioned in the application as filed, its use in step (iii) was evident to the skilled person. However, the Board considers that this argument falls back upon considerations which should only be taken into account when assessing

inventive step. The requirements for the allowability of an amendment under Article 123(2) EPC are that the amendment must be directly and unambiguously derivable from the application as filed (see point 2.1 above). Thus, this argumentation of the Respondent is devoid of merit when assessing the allowability of an amendment under Article 123(2) EPC.

With regard to various other features in claim 1, the Respondent indicated that the basis in the application as filed for the process being continuous, perchloroethylene being reacted in step (i), step (ii) resulting in less than 1 weight % of compounds of formula  $C_2Cl_{x+1}F_y$ , step (iii) resulting in less than 1 weight % of chloropentafluoroethane, and steps (i), (ii) and (iii) being carried out in that order, was at page 3, line 5, page 6, line 23, page 4, lines 21 to 22, page 5, lines 3 to 5 and page 2, lines 20 to 21, respectively. However, the combination of these features is not disclosed in the application as filed, let alone together with the feature that the dichlorotrifluoroethane separated in step (ii) is reacted in step (iii), there being no specific link between the various passages in the application as filed cited above and none was indicated by the Respondent. Nor do the claims as originally filed provide such a link, since although perchloroethylene is disclosed in original claim 30 and the order of the steps in original claim 2, claim 30 was not dependent on claim 2.

- 2.4 The Board thus holds that the feature "reacting the dichlorotrifluoroethane separated in step (ii)" has no adequate support in the application as filed, said

feature not being disclosed *per se*, let alone in combination with other features of the claim. Claim 1 of the main request is thus amended in such a way that subject-matter extending beyond the application as filed is added, contrary to the requirements of Article 123(2) EPC, with the consequence that the main request is not allowable.

*Auxiliary requests 1 and 6*

2.5 Claim 1 of the auxiliary requests 1 and 6 also comprises in step (iii) the feature "reacting the dichlorotrifluoroethane separated in step (ii)", in combination with all features referred to in point 2.3, last paragraph, above, namely the process being continuous, perchloroethylene being reacted in step (i), step (ii) resulting in less than 1 weight % of compounds of formula  $C_2Cl_{x+1}F_y$ , step (iii) resulting in less than 1 weight % of chloropentafluoroethane, and steps (i), (ii) and (iii) being carried out in that order. Thus, for the reasons given in point 2.3 above, claim 1 of these requests is also amended in such a way that subject-matter extending beyond the application as filed is added, contrary to the requirements of Article 123(2) EPC, with the consequence that the auxiliary requests 1 and 6 are not allowable.

*Auxiliary requests 2 to 5*

2.6 Claim 1 of auxiliary requests 2 to 5 differs from claim 1 of the main request *inter alia* in that the feature "in a second reactor reacting the dichlorotrifluoroethane separated in step (ii)" in step (iii) has been amended to "passing the composition

separated in step (ii) to a second reactor and reacting the dichlorotrifluoroethane". Claim 1 of these requests also comprises all features referred to in point 2.3, last paragraph, above.

2.7 The Respondent conceded that this amendment to claim 1 *vis-à-vis* the main request was merely a reformulation of the wording used in claim 1 of the main request, the subject-matter of this feature remaining thereby the same.

2.8 Therefore, claim 1 of these requests is also amended in such a way that subject-matter extending beyond the application as filed is added, contrary to the requirements of Article 123(2) EPC, with the consequence that the auxiliary requests 2 to 5 are not allowable.

## **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:

C. Rodríguez Rodríguez

R. Freimuth