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**Datasheet for the decision
of 29 January 2008**

Case Number: T 0196/05 - 3.3.03

Application Number: 99907730.8

Publication Number: 1068262

IPC: C08K 3/00

Language of the proceedings: EN

Title of invention:
Biocidal Plastic Material

Applicant:
Lucite International UK Limited

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Added subject-matter - (yes)"

Decisions cited:
T 0201/83, T 0383/88

Catchword:
-



Case Number: T 0196/05 - 3.3.03

D E C I S I O N
of the Technical Board of Appeal 3.3.03
of 29 January 2008

Appellant: Lucite International UK Limited
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Decision under appeal: Decision of the Examining Division of the
European Patent Office dated 28 July 2004 and
posted 27 September 2004 refusing European
application No. 99907730.8 pursuant to Article
97(1) EPC.

Composition of the Board:

Chairman: R. Young
Members: C. Idez
H. Preglau

Summary of Facts and Submissions

- I. European patent application No. 99 907 730.8, filed as PCT/GB99/00686 on 16 March 1999, published under No. WO-A-99/47595 (EP publication No. 1 068 262) on 23 September 1999 and claiming the priority of the GB patent application No. 9805487.7 filed on 17 March 1998 was refused by a decision of the Examining Division announced orally on 28 July 2004 and issued in writing on 27 September 2004.
- II. The decision of the Examining Division was based on a main request consisting of Claims 1 to 9 as filed with letter dated 3 January 2003 and of Claims 10 to 17 as filed with letter dated 23 February 2000, on a first auxiliary request ("first auxiliary claims") consisting of Claim 1 as filed with letter dated 28 June 2004 and of Claims 2 to 17 corresponding to Claims 2 to 17 of the main request, and on a second auxiliary request ("second auxiliary claims") consisting of Claim 1 as filed with letter dated 28 June 2004 and Claims 2 to 17 corresponding to Claims 2 to 17 of the main request.

Claim 1 of the main request read as follows:

"A plastics material having biocidal activity comprising a compounded acrylic polymeric material, the said acrylic polymeric material comprising a homopolymer or copolymer of methyl methacrylate (comprising 80-100% of methyl methacrylate residues and 0-20% of a comonomer of a further acrylate or methacrylate) and a biocidal compound wherein said acrylic material incorporates from 5% to 50% by weight of the total polymer present of a rubbery copolymer."

Claim 1 of the first auxiliary request read as follows:

"A plastics material having biocidal activity comprising a compounded acrylic polymeric material, the said acrylic material being a homopolymer or a copolymer of 80-100% of methyl methacrylate residues and 0-20% of a C₁₋₆alkyl (C₀₋₈alk)acrylate, and a biocidal compound wherein said acrylic material incorporates from 5% to 50% by weight of the total polymer present of a rubbery copolymer."

Claim 1 of the second auxiliary request read as follows:

"A plastics material having biocidal activity comprising a compounded acrylic polymeric material, the said acrylic material being a copolymer of methyl methacrylate and 1-20% w/w of an alkyl acrylate, and a biocidal compound wherein said acrylic material incorporates from 5% to 50% by weight of the total polymer present of a rubbery copolymer."

According to the decision Claim 1 of all requests met the requirements of Article 123(2) EPC. The subject-matter of Claim 1 of all requests was considered as novel but as lacking inventive step in view of document D1 (English Translation of the JP-A-06-313017).

According to the decision the subject-matter of Claim 1 of the main request differed from D1 (cf. embodiment 9 thereof) in that an acrylic polymeric material with 80-100% wt methyl methacrylate (MMA) residues was used instead of a styrene based material with at most 60% wt MMA residues. In that respect, the Examining Division

considered that the feature "compounded" could not establish an additional difference. Since, according to the Examining Division, there were no comparative data on file which could demonstrate the technical relevance of using a MMA based resin instead of a styrene based resin, the technical problem was merely the provision of alternative biocide and rubber containing plastics for domestic applications. It was considered in the decision that it would have been obvious for an expert to change the resin type to acrylic type resins containing 80-100%wt MMA residues, when starting from a styrene based resin with up to 60%wt MMA residues. According to the decision, the subject-matter of Claim 1 of the auxiliary requests 1 and 2 only further defined the type of polymer. Thus, for the same reasons as for the main request, they did not fulfil the requirements of Article 56 EPC.

III. Notice of Appeal was filed on 24 November 2004 with simultaneous payment of the prescribed fee by the Appellant (Applicant).

In the Statement of Grounds of Appeal filed on 2 February 2005, the Appellant contested the findings of the Examining Division concerning the assessment of inventive step and in particular emphasized the importance of the compounding step for preparing the biocidal compositions. It argued essentially as follows in that respect:

(i) The subject matter of Claim 1 of the main request was further distinguished from D1 in that the addition of biocide during the compounding step was not disclosed in embodiment 9 of D1.

(ii) There was no general teaching in D1 that the feature of the "compounded" biocide was an important one. On the contrary, the teaching of document D1 was that the biocide should be added during the polymerisation step and not during the "compounding" step (see paragraph 5 and 51 lines 24-31 of document D1).

(iii) The application in suit showed, however, that 2% of compounded antibacterial component caused a 100 000 fold reduction in bacterial activity in 24 hours which was much higher than any of the embodiments 1-3, and 9 or comparative embodiment 6 of D1.

(iv) There was a surprising enhancement of the biocidal effect of biocidal compound incorporated into the rubber acrylic materials during the compounding phase. Such surprising enhancement was neither taught nor indicated by document D1.

IV. In a communication issued on 5 October 2007 accompanying a summons to oral proceedings, the Board gave its preliminary view concerning issues under Articles 123(2), 84, 54 and 56 EPC. In its communication the Board in particular questioned where support was to be found in the application as filed for the feature "compounded" in Claim 1 of all requests. In support of its novelty objection, the Board relied on the document D7 (EP-A-0 465 049).

V. With its letter dated 24 December 2007, the Appellant filed a new first auxiliary request as well as a third, a fourth and a fifth auxiliary request.

It presented arguments concerning Article 54, 56, 84 and 123(2) EPC. In that latter respect, it submitted in particular that the term "compounded" which was present in Claim 1 of all requests was a valid generalization of the examples of the application in suit.

VI. Oral proceedings were held before the Board on 29 January 2008.

At the beginning of the oral proceedings, the Appellant submitted a new main request which, according to the Appellant, was based on a combination of the main request considered by the Examining Division in its decision with the first and fifth auxiliary request as submitted with letter dated 24 December 2007. It also indicated that it withdrew the first and fifth auxiliary requests submitted with letter dated 24 December 2007. The filing of the new main request was justified by the aim of more clearly distinguishing the claimed subject-matter from D7.

Following preliminary observations of the Board under Article 84 and 123(2) EPC concerning the claims of that new main request, the Appellant submitted an amended main request consisting of 16 claims.

Claim 1 of the main request reads as follows:

"1. A plastics material having biocidal activity comprising an acrylic polymeric material, the said acrylic material comprising a homopolymer or a copolymer of 80-100% of methyl methacrylate residues and 0-20% of a comonomer of a further acrylate or methacrylate selected from the methyl, ethyl, butyl, 2-ethylhexyl, cyclohexyl or phenyl esters of acrylic or

methacrylic acid, and a biocidal compound wherein said acrylic material incorporates from 5% to 50% by weight of the total polymer present of a rubbery copolymer, wherein the acrylic material, the rubbery copolymer, and the biocidal compound are compounded together and wherein said biocidal compound comprises at least 0.25% by weight of the plastics material."

The second auxiliary request corresponds to the second auxiliary request ("second auxiliary claims") refused by the Examining Division.

Claim 1 of the third auxiliary request reads as follows:

"A plastics material having biocidal activity comprising a compounded acrylic polymeric material, the said acrylic material being a homopolymer or copolymer of 80-100% methyl methacrylate residues and 0-20% of a comonomer of a further acrylate or methacrylate selected from the methyl, ethyl, butyl, 2-ethylhexyl, cyclohexyl or phenyl esters of acrylic or methacrylic acid, and a biocidal compound wherein said acrylic material incorporates from 5% to 50% by weight of the total polymer present of a rubbery copolymer."

Claim 1 of the fourth auxiliary request reads as follows:

"A plastics material having biocidal activity comprising a compounded acrylic polymeric material, the said acrylic material being a copolymer of methyl methacrylate and 1-20% w/w of an alkyl acrylate and having a molecular weight of less than 500,000, and a

biocidal compound wherein said acrylic material incorporates from 5% to 50% by weight of the total polymer present of a rubbery copolymer."

Concerning the allowability of Claim 1 of the main request under Article 123(2) EPC of the main request, the Appellant essentially submitted that the feature according to which the acrylic polymeric material, the rubbery copolymer and biocidal compound were compounded together was supported by the Examples 1 to 11, 14, and 16 to 18 of the application as originally filed, and that the skilled person would understand from the application as filed that the teaching of these could be generalized. This was, in its view, further supported by the passage on page 2, lines 16 to 17 of the application as filed which referred to compounding as support for its line of arguments. The same line of argument would apply to Claim 1 of the second, third and fourth auxiliary requests.

VII. The Appellant requested that the decision under appeal be set aside, and that a patent be granted on the basis of the main request filed during the oral proceedings (claims 1 to 16) or in the alternative on the basis of the 2nd auxiliary request corresponding to the "2nd auxiliary claims" refused by the Examining Division or the 3rd auxiliary request as identified in the letter dated 24 December 2007 or the 4th auxiliary request as identified in the letter dated 24 December 2007.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. *Article 123(2) EPC*

2.1 Claim 1 differs from Claim 1 as originally filed by:

the feature (i) according to which the acrylic polymeric material comprises a homopolymer or copolymer of methyl methacrylate comprising 80-100% of methyl methacrylate residues and 0-20% of a comonomer of a further acrylate or methacrylate selected from the methyl, ethyl, butyl, 2-ethylhexyl, cyclohexyl or phenyl esters of acrylic or methacrylic acid,

the feature (ii) according to which the biocidal compound comprises at least 0.25% by weight of the plastics material, and

the feature (iii) according to which the acrylic material, the rubbery copolymer, and the biocidal compound are compounded together.

2.2 Feature (i) is supported by lines 21 to 26 on page 3 of the application as originally filed, and feature (ii) finds its support in original Claim 4. Thus, the question of the allowability of Claim 1 under Article 123(2) EPC boils down to the question whether the incorporation of feature (iii) in that claim is allowable under Article 123(2) EPC.

2.3 Consequently, it remains to be examined whether feature (iii) can be directly and unambiguously derived from the disclosure of the application as originally filed,

taking into account, as indicated in the decision T 383/88 of 1 December 1992 (not published in OJ EPO; Reasons point 2.2.2), that the slightest doubt as to the derivability of the amendment from the unamended document would rule out the amendment.

- 2.4 When trying to justify the incorporation of feature (iii), the Appellant has submitted that Examples 2 to 11, and 13 to 18 directly or indirectly refer back to Example 1 in which the composition is prepared by compounding together the components of the plastics composition, and that therefore the introduction of feature (iii) in Claim 1 represents an allowable generalization of the teaching of the examples.
- 2.5 In the Board's view, even if it would be accepted that the same procedure as in Example 1 has been used for preparing the compositions disclosed in the Examples 2 to 11, 14 and 16 to 18, it would still remain that the disclosure of Examples 2 to 11, 14 and 16 to 18 would still be restricted to the preparation of specific compositions comprising a specific acrylic polymeric material (i.e. DiakonTM LG 156), a specific biocidal compound (i.e. VanquishTM 100 in Examples 2 to 9, 11 and 16 to 18; DensilTM S in Example 10, and IrgasanTM DP300 in Example 14), and a specific rubbery copolymer (i.e. KANETM ACE 56 in Examples 2 to 11, 14 and 18, a core shell impact modifier MMA/butyl acrylate/styrene copolymer in Example 16, and IR441TM in Example 17) by a specific compounding process, i.e. compounding together the respective acrylic polymeric material, biocidal compound, and rubbery copolymer in a twin-screw extruder at 200-220°C.

2.6 In this context, it is hence evident that using the disclosure of the examples for justifying the allowability of the introduction of the feature (iii) in Claim 1 would nevertheless necessitate at least two levels of generalization, i.e. the generalization of the compounding process disclosed in these examples to the compositions according to Claim 1, and the generalization of the specific compounding process disclosed in these examples to any compounding process.

2.6.1 In that respect, it could have been considered that the specific compounding process was not so closely associated with the compositional features of these examples (i.e. the specific components of the exemplified plastics compositions) in a unique manner and to a significant degree, so that the skilled person could have recognized that the specific compounding process could be applied to other compositions disclosed in the application as originally filed and comprising an acrylic polymeric material defined by feature (i) of Claim 1, a biocidal compound and a rubbery copolymer.

2.6.2 Even if one would have hence concluded that the first level of generalization mentioned above in paragraph 2.6 could be allowable under Article 123(2) EPC (cf. decision T 201/83; OJ EPO 1984, 481; Reasons point 12), the same considerations could not be applied, in the Board's view, to the second level of generalization, i.e. the generalization of the process disclosed in these examples to any compounding process.

2.6.3 This is primarily because, in view of the emphasis put by the Appellant in the course of the appeal

proceedings on the essential importance of the compounding step disclosed in the application in suit for the achievement of biocidal properties (cf. Section III above), there are hence at least some doubts as to whether the same effect could be achieved with any other compounding procedure.

- 2.6.4 This is further and essentially because the only compounding method disclosed in the application as originally filed is the one disclosed in Example 1, so that there is, in any case, absolutely no basis in the application as filed for the further generalization to other compounding processes, let alone to any compounding process.
- 2.6.5 This conclusion could not be altered by the argument of the Appellant that the passage at page 2, lines 16 to 17 would provide a basis for that generalization, because this passage is only part of the description of the relevant prior art.
- 2.7 Under these circumstances, and having regard to the very strict criteria for the admissibility of amendments set out in paragraph 2.3 above, the Board can only come to the conclusion that the incorporation of feature (iii) in Claim 1 contravenes Article 123(2) EPC.
- 2.8 Since Claim 1 of the main request does not meet the requirements of Article 123(2) EPC, the main request must be refused.

Second, third, and fourth auxiliary requests

3. *Article 123(2) EPC*

3.1 Claim 1 of all these requests differs in particular from Claim 1 as originally filed by the introduction of the feature that the acrylic polymeric material is "compounded".

3.2 As for the introduction of feature (iii) in Claim 1 of the main request, the introduction of this feature in Claim 1 of the second, third and fourth auxiliary request necessitates at least the two levels of generalization mentioned in paragraph 2.6 above.

3.3 By analogy with the reasons given for the main request (cf. points 2.7 and 2.8 above), the Board comes to the conclusion that Claim 1 of these requests does not meet the requirements of Article 123(2) EPC.

3.4 It thus follows that the second, the third and the fourth auxiliary requests must be refused.

4. Since none of the requests of the Appellant are allowable, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

E. Görgmaier

R. Young