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D E C I S I O N
of 15 September 2003

Case Number: T 1106/02 - 3.2.7

Application Number: 97113670.0

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IPC: B65D 81/26

Language of the proceedings: EN

Title of invention:
Disiccant container

Applicant:
Süd-Chemie Inc.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 56, 84

Keyword:
"Clarity - main and auxiliary requests (yes)"
"Inventive step - main and auxiliary requests (no)"

Decisions cited:
-

Catchword:
-



Case Number: T 1106/02 - 3.2.7

D E C I S I O N
of the Technical Board of Appeal 3.2.7
of 15 September 2003

Appellant:

Süd-Chemie Inc.
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Representative:

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Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 4 July 2002
refusing European application No. 97113670.0
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: A. Burkhart
Members: P. A. O'Reilly
E. Lachacinski

Summary of Facts and Submissions

I. The appellant (applicant) filed an appeal against the decision of the Examining Division to refuse the European application No. 97 113 670.0.

II. The application was refused by the Examining Division for lack of clarity and lack of inventive step.

The most relevant prior art documents for the present decision are:

D1: GB-A-2 101 870

D3: "Compatibility" by D.W. Fox & R.B. Allen in Concise Encyclopaedia of Polymer Science and Engineering; pages 176 to 178, Wiley 1990

D4: "Compatibility" by D.W. Fox & R.B. Allen in Encyclopaedia of Polymer Science and Engineering; pages 758 to 775, Wiley 1985 (introduced by the Board during the appeal proceedings)

III. The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of claims 1 to 8 according to the main request filed with letter of 28 October 2002 or on the basis of claims 1 to 8 according to the auxiliary request filed with letter of 28 October 2002.

IV. The independent claim of the main request reads as follows:

"1. A desiccant container comprising a desiccant material (14) which does not release liquid after absorption of water vapor and which is surrounded by a laminated, water vapor permeable desiccant packing material (12), wherein said packing material comprises a microporous or non-woven film or a laminate of separate layers of a microporous or non-woven film (16) having an inner (18) and an outer (20) surface heat sealed to a laminate film (22) having an inner (24) and an outer (26) surface, wherein the microporous or non-woven film or laminate (16) and the laminate film (22) are different from each other and are not coated with an adhesive, wherein edges of the inner surface (18) of the microporous or non-woven film (16) are sealed to the edges of the inner surface (24) of the uncoated laminate film (22), wherein the uncoated laminate film (22) has a lower moisture vapor transmission rate than the microporous or non-woven film (16), wherein the inner surface (18) of the microporous or non-woven film (16) and the inner surface (24) of the laminate film (22) are comprised of compatible polymeric materials which mix on a molecular scale and crystallize homogenously and wherein the softening temperature of the inner surface (24) of the laminate film (22) is lower than or equal to the softening temperature of the inner surface (18) of the microporous non-woven film (16)."

The independent claim of the auxiliary request adds to claim 1 of the main request the feature that the desiccant material is:

"comprising a mixture of starch and calcium chloride"

V. The appellant argued in written and oral submissions essentially as follows:

- (i) The term "compatible", which was objected to by the Examining Division, is clear. This is a well known term as shown by document D3 which shows the general expert knowledge. Document D3 defines "compatibility" in similar terms as in the application in suit.

- (ii) The Examining Division wrongly considered that the material in the container did not influence the technical problem to be solved. A desiccant material absorbs water and increases in volume which will lead to pressure on the seals of the container. This problem does not occur when the material is an oxygen absorbent. Oxygen absorbents do not belong to the same field of application as desiccants. Oxygen absorbents are used to maintain the quality of foodstuffs. A desiccant would not be used in this field as it would reduce the quality of the foodstuff. The skilled person would not therefore consider the design disclosed in document D1 as it does not focus on the necessity for a strong seal between the layers.

- (iii) The extra feature of the auxiliary request limits the claim to a specific deliquescent material.

Reasons for the Decision

Main Request

1. *Clarity*

The Examining Division gave lack of clarity as one of the reasons for refusing the application, considering that the term "compatible" and its definition in claim 1 were not clear. The Board considers that the term is a well known term in the polymer art with a well established meaning as exemplified in documents D3 and D4. The definition of the term in claim 1 is consistent with the definitions given in documents D3 and D4. Claim 1 is therefore clear.

2. *Inventive step*

2.1 Closest prior art

The closest prior art is represented by the general teaching of a desiccant container comprising a desiccant material which does not release liquid after absorption of water vapor and which is surrounded by a laminated, water vapor permeable desiccant packing material securely sealed together at the edges of the packaging, cf. the application as filed, page 1, lines 12 to 16 and page 2, lines 7 to 21.

2.2 Problem to be solved

The objective problem to be solved by the distinguishing features of claim 1 is to provide a container material which is simple to produce and

capable of being manufactured on high speed production facilities using conventional sealing equipment, cf. the application as filed, page 2, last line to page 3, line 2, and page 6, lines 19 to 22. In particular, the use of slow impulse heaters should be avoided, cf. page 3, lines 19 to 21.

2.3 Solution to the problem

The solution to the problem is that said packing material comprises a microporous or non-woven film or a laminate of separate layers of a microporous or non-woven film having an inner and an outer surface heat sealed to a laminate film having an inner and an outer surface, wherein the microporous or non-woven film or laminate and the laminate film are different from each other and are not coated with an adhesive, wherein edges of the inner surface of the microporous or non-woven film are sealed to the edges of the inner surface of the uncoated laminate film, wherein the uncoated laminate film has a lower moisture vapor transmission rate than the microporous or non-woven film, wherein the inner surface of the microporous or non-woven film and the inner surface of the laminate film are comprised of compatible polymeric materials which mix on a molecular scale and crystallize homogenously and wherein the softening temperature of the inner surface of the laminate film is lower than or equal to the softening temperature of the inner surface of the microporous non-woven film.

2.4 The solution to the problem is obvious for the following reasons:

The features according to the above mentioned solution, with the exception of the feature that the uncoated laminate film has a lower moisture vapor transmission rate than the microporous or non-woven film, are known from document D1 and the appellant has not disputed this. Document D1 relates to a container including oxygen absorbing material which absorbs oxygen from the surrounding atmosphere, e.g. for use in the preservation of foodstuffs. Document D1 is concerned with the same problem as the application in suit, cf. page 1, lines 32 to 40 and lines 57 to 61 of document D1. In the opinion of the Board the skilled person, when wishing to solve a sealing problem for a container for desiccant material, would also consider related technical areas where the same problem may be expected to arise. The field of containers for oxygen absorbents is such a related field. Oxygen absorbents are contained in containers having microporous walls to allow the gas to traverse the walls. The material of the walls is the same in the case of containers for desiccants as in the case of containers for oxygen absorbents. Indeed, the preferred microporous materials are the same in document D1 and in the application in suit. The skilled person would therefore consider that a solution to the problem of sealing the microporous layer could also be found in the field of containers for oxygen absorbents as the same problem arises in that field. The skilled person would therefore apply the teaching of document D1, as this document presents a solution to the problem which it is desired to solve.

Document D1 does not explicitly disclose that the uncoated laminate film has a lower moisture vapor transmission rate than the microporous or non-woven film. However, so long as the vapor can pass through one film of the container, i.e. the microporous film, it is clear that the laminate film is not required to have as high transmissibility rate as the microporous film. Therefore the skilled person would consider that the laminate film could have a lower transmissibility rate, particularly if other physical properties were more important for the laminate film. No indication is given in the application of any advantage connected with this feature. This feature must therefore be considered obvious for the skilled person.

- 2.5 Therefore, the subject-matter of claim 1 of the main request does not involve an inventive step in the sense of Article 56 EPC.

Auxiliary Request

3. *Inventive step*

- 3.1 The auxiliary request specifies the particular type of desiccant material provided in the container. The specified materials of the desiccant are conventional desiccants, as is acknowledged in the application on page 13, lines 12 to 15. It is stated in the application on page 13, lines 17 to 21 that the mixture of starch and calcium chloride is surprisingly the preferred desiccant material. It is also stated on page 15, lines 15 to 19 that with the preferred desiccant material lesser quantities of the material need to be utilized than with conventional desiccating

containers to achieve the same moisture absorbency. However, no proof of this assertion has been filed, for example in the form of comparative tests. In the absence of proof the Board cannot accept a mere assertion of a surprising effect.

The skilled person would always choose the desiccant material which he considers to be appropriate for the intended use. Starch and calcium chloride are known desiccants which the skilled person would use as appropriate. The provision of these desiccants would therefore be obvious to the skilled person.

- 3.2 Therefore, the subject-matter of claim 1 of the auxiliary request does not involve an inventive step in the sense of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

D. Spigarelli

A. Burkhart