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Datasheet for the decision of 6 June 2024

Case Number: T 1219/21 - 3.3.10

Application Number: 14001449.9

Publication Number: 2789664

IPC: C09J133/06, C08F220/18

Language of the proceedings: EN

Title of invention:
Water whitening-resistant pressure sensitive adhesives

Patent Proprietor:
Avery Dennison Corporation

Opponent:
BASF SE

Headword:

Relevant legal provisions:
EPC Art. 76(1), 123(2), 54(2), 56, 83

Keyword:

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It can be changed at any time and without notic

Decisions cited:

Catchword:

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Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1219/21 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 6 June 2024

Appellant: (Opponent)	BASF SE 67056 Ludwigshafen (DE)
Representative:	BASF IP Association BASF SE G-FLP-C006 67056 Ludwigshafen (DE)
Respondent: (Patent Proprietor)	Avery Dennison Corporation 8080 Norton Parkway Mentor, OH 44060 (US)
Representative:	HGF HGF Limited 1 City Walk Leeds LS11 9DX (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 2 June 2021 concerning maintenance of the European Patent No. 2789664 in amended form.**

Composition of the Board:

Chair	M. Kollmannsberger
Members:	R. Pérez Carlón
	T. Bokor

Summary of Facts and Submissions

I. The appellant (opponent) appealed against the opposition division's interlocutory decision concerning maintenance of European patent No. 2 789 664 in the form of the main request then pending.

II. The opposition was based on all the grounds under Article 100 EPC.

III. The following documents are relevant to the present decision:

D4 WO 98/44064 A1
D11 US 60/784,867 (priority document of the patent)

IV. The opposition division concluded that the feature "volume average particle diameter" had a basis in the earlier application.

The patent disclosed several ways to carry out the invention, which was sufficiently disclosed for it to be carried out by a skilled person.

The prior art did not disclose the combination of volume average particle size and opacity required by claim 1, which was thus novel.

Document D4 related to the prevention of opacity caused by hot water and was the closest prior art. The problem underlying the claimed invention was to provide an adhesive allowing improved water-whitening resistance over an extended period of time. The solution proposed by claim 1, characterised by a volume-average particle diameter of at least 250 nm, would not have been

obvious to a skilled person and was thus inventive.

V. With the reply to the appellant's statement setting out the grounds of appeal, the respondent (patent proprietor) filed auxiliary requests 20 to 25 which should follow the main request and auxiliary requests 1 to 19 pending before the opposition division.

VI. The board informed the parties in a communication in preparation for oral proceedings that it was of the view that the feature "volume average particle diameter of at least 250nm" had the required basis. With respect to auxiliary request 21 it noted that there were no other objections from the appellant in the file which could apply to this request.

VII. At the oral proceedings before the board, which took place on 6 June 2024, the respondent withdrew its main request and auxiliary requests 1 to 20; the request filed as auxiliary request 21 became its main request.

Claim 1 reads as follows:

"*A water resistant acrylic pressure sensitive adhesive polymer formed by polymerizing in emulsion a mixture of monomers comprising*

at least one alkyl acrylate ester of an alcohol containing 4 to 8 carbon atoms in the alkyl chain;

at least one polar monomer; and

at least one copolymerizable monomer selected from (a) styrene and styrene derivative monomers or (b) methyl methacrylate, ethyl acrylate, methyl acrylate, vinyl acetate, and combinations of two or more thereof, wherein the monomer of (b) is used with a chain transfer agent,

wherein the pressure sensitive adhesive polymer has

a volume average particle diameter of at least 250nm as determined by laser light scattering and wherein the polymer exhibits an increase in opacity of less than about 10% as determined by the Hot Water Resistance Test,

wherein the polar monomer is chosen from acrylic acid, methacrylic acid, maleic acid, fumaric acid, itaconic acid and combinations of two or more thereof, or from beta-carboxyethyl acrylate, monomethacryloylethyl succinate, monomethacryloylethyl phthalate, polyethylene glycol monoacrylate, polypropylene glycol monoacrylate, 2-hydroxyethyl methacrylate, 2-hydroxypropyl methacrylate, 2-hydroxyethyl acrylate, 2-hydroxypropyl acrylate and combinations of two or more thereof; and

wherein the water resistant acrylic pressure sensitive adhesive polymer is formed in the presence of a fatty alcohol polyglycol ether surfactant containing C-12 hydrophobes and having an ethoxylation content of less than or equal to 20 mols."

VIII. At the oral proceedings before the board the appellant confirmed that they had no substantive arguments against the respondent's main request.

IX. The respondent requested that the decision under appeal be set aside and the case remitted to the opposition division for maintenance of the patent with the following claims and an adapted description: Claims: No. 1 to 7 filed under the title of auxiliary request 21 with letter dated 3 February 2022.

X. At the end of the oral proceedings, the decision was announced.

Reasons for the Decision

1. The appeal is admissible.

2. The appellant did not put forward any arguments against the respondent's main request. Nor did the board itself raise any objections, as set out previously in its communication in preparation for oral proceedings.

However, the subject-matter of the present main claim was not the subject of the impugned decision and was therefore not yet examined. Even in the absence of substantive arguments from the other party, the board cannot allow this request without being satisfied that the claimed invention fulfils the requirements of the Convention.

3. Amendments

3.1 Claim 1 of the main request results from the combination of claims 1, 4 and 5 of the application as originally filed, the surfactants disclosed on page 7, lines 22 to 25, and the volume average particle size on page 8, line 19. The same holds for the corresponding passages in the earlier application.

3.2 The appellant argued in writing that page 8, line 19, of the earlier application could not serve as a basis for the feature "volume average particle diameter of at least 250 nm", as it read "*mean* volume-average particle *size* of at least 250 nm". This objection was not maintained against the present main request at the oral proceedings before the board.

3.3 The board concluded that no new technical information was conveyed by omitting the term "mean", normally

understood as "arithmetic mean", which is thus the same as "average".

3.4 The board is satisfied that the requirements of Articles 76(1) and 123(2) EPC are thus fulfilled.

3.5 The claimed subject-matter does not extend the scope of protection conferred by the patent as granted (Article 123(3) EPC).

4. Sufficiency of disclosure

4.1 Claim 1 of the main request relates to an adhesive polymer formed by polymerising in emulsion a mixture of three types of monomers in the presence of a specific type of surfactants. The resulting polymer has a defined size and an increase in opacity below a threshold set.

4.2 In view of the experimental evidence in the patent and the corroborating evidence arising from D11 (Figures 1 and 2), the surfactants required by claim 1 lead to adhesive polymers having the required size and opacity increase. This was undisputed.

The claimed invention is thus sufficiently disclosed for it to be carried out by a skilled person (Article 83 EPC).

5. Novelty

None of the cited pieces of prior art disclose polymers obtained with the aid of the surfactants in claim 1. It was undisputed that the use of these surfactants inevitably leads to different polymers. The claimed

polymer is thus novel (Article 54 EPC).

6. Inventive step

6.1 Closest prior art

From the cited prior art only document D4 relates, like the patent, to the resistance of adhesives to whitening in hot water. D4 discloses in Table 5 adhesives which remain clear or turn to very light blue upon treatment with 95°C water for 10 minutes. It was undisputed that D4 thus comes closest to the claimed invention.

The claimed adhesive differs from that in D4 at least by the choice of the surfactant used for preparing it. This was also undisputed.

6.2 Problem underlying the claimed invention

It was undisputed that the problem underlying the claimed invention was to provide an adhesive polymer with a resistance to whitening in hot water comparable to that achieved by the adhesives of D4.

6.3 Solution

The solution proposed by claim 1 is characterised at least by the nature of the surfactant employed in the preparation process of the adhesive polymer.

6.4 Success

In view of the data in Figure 2 of D11 which links the use of the surfactants required by claim 1 to low delta opacity and thus with absence of whitening in hot water, the problem as defined above is credibly solved

by the claimed adhesive polymers.

6.5 Obviousness

The cited prior art does not link the use of non-ionic surfactants, let alone of those required by claim 1, with any specific effect. Seeking a polymer with good resistance to whitening, a skilled person had no pointer for turning to the type of surfactants in claim 1. The claimed solution would not have been obvious to a skilled person and thus involves an inventive step. (Article 56 EPC).

7. The parties had no objection that the case be remitted to the opposition division for adapting the description to the claims of the main request (Article 111(1) EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain the patent with the following claims and a description to be adapted thereto:

Claims: No. 1 to 7 filed under the title of auxiliary request 21 with letter dated 3 February 2022.

The Registrar: The Chair:

C. Rodríguez Rodríguez M. Kollmannsberger

Decision electronically authenticated