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**Datasheet for the decision
of 2 September 2009**

Case Number: T 1632/06 - 3.3.01

Application Number: 00991616.4

Publication Number: 1239732

IPC: A01N 43/90

Language of the proceedings: EN

Title of invention:

Preserving active fungicide in an aqueous solution

Patentee:

DSM IP Assets B.V.

Opponent:

CSK food enrichment B.V.
Celanese Emulsions GmbH

Headword:

Natamycin stabilisation/DSM

Relevant legal provisions:

EPC Art. 54, 56

Relevant legal provisions (EPC 1973):

EPC R. 56

Keyword:

"Admissibility of opposition 1 (yes) - deficiencies remedied
in good time"

"Main Request and Auxiliary Request: Novelty (no)"

"Auxiliary Requests 2 and 3: Inventive step (no) - obvious
solution"

Decisions cited:

T 0037/82

Catchword:

-



Case Number: T 1632/06 - 3.3.01

DECISION
of the Technical Board of Appeal 3.3.01
of 2 September 2009

Appellant:
(Patent Proprietor)

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Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted 12 October 2006
revoking European patent No. 1239732 pursuant
to Article 102(1) EPC 1973.**

Composition of the Board:

Chairman: P. Ranguis
Members: C. M. Radke
C.-P. Brandt

Summary of Facts and Submissions

- I. The patent proprietor appealed the decision of the opposition division revoking European patent no. 1 239 732.
- II. The oppositions were directed against the patent in its entirety and were based on grounds under Article 100(a) (alleged lack of novelty and of inventive step) and (c) EPC.
- III. The following documents were *inter alia* cited during the opposition proceedings:
- (D3) K. Florey (ed.), *Analytical Profiles of Drug Substances*, vol. 10, Academic Press, New York NY/US 1981, 512-561
 - (D4) J. Dekker and P. A. Ark, *Antibiotics and Chemotherapy*, vol. IX, no. 6 (1959), 327-332
 - (D6) US-A-5 738 888
 - (D7) EP-A-0 608 944
 - (D9) EP-A-0 513 922
 - (D10) US-A-5 895 680
 - (D11) US-A-5 895 681
 - (D12) EP-A-0 678 241
- IV. The decision under appeal was based on the claims 1 to 26 filed on 23 May 2006 (main request), on claims 1 to 26 as granted (first auxiliary request) and on claims 1 to 4 submitted during the oral proceedings before the opposition division on 27 July 2006 (second auxiliary request).

Independent claims 1, 9 and 21 of the main request read as follows:

"1. A method for preserving the activity of natamycin in an aqueous solution comprising providing said solution with a chelating agent and/or an anti-oxidation agent, wherein said chelating agent and said anti-oxidation agent may be the same agent or a different agent, said chelating agent is glycine, polyphosphate, EDTA, a salt of EDTA, 1,3-diamino-2-hydroxypropane-N,N,N',N'-tetraacetic acid or 1,3-diamino-propane-N,N,N',N'-tetraacetic acid and said anti-oxidation agent is a non-acidic anti-oxidation agent."

"9. An aqueous solution comprising natamycin and a chelating agent and/or an anti-oxidation agent, wherein said chelating agent and said anti-oxidation agent may be the same agent or a different agent, said chelating agent is glycine, polyphosphate, EDTA, a salt of EDTA, 1,3-diamino-2-hydroxypropane-N,N,N',N'-tetraacetic acid or 1,3-diamino-propane-N,N,N',N'-tetraacetic acid and said anti-oxidation agent is a non-acidic anti-oxidation agent."

"21. A method for enabling the use of polymer beads capable of forming a stable emulsion through electrostatic interaction between said beads in the preparation of a polymer emulsion comprising a natamycin, wherein the activity of said fungicide is stable, wherein said emulsion is suited for the production of food coatings comprising providing said emulsion with a chelating agent and/or anti-oxidation agent."

V. The opposition division decided

- that opposition 1 was admissible,
- that the main request was not allowable as the term "non-acetic anti-oxidation agent" in claims 1 and 9 contravened the requirements of Article 123(3) EPC;
- that the claims of the first auxiliary request contravened the requirements of Article 123(2) EPC;
- that the subject-matter of the claims of the second auxiliary request was novel but not inventive in view of document (D7) or (D12) as the closest prior art if combined with document (D3), (D4), (D6), (D10), or (D11).

VI. The following documents were additionally cited during the appeal proceedings:

- (D16) Römpf Chemie Lexikon, 10th edn., vol. 4 (1998)
Georg Thieme Verlag, Stuttgart/DE, 3250-3251
- (D17) M. Ono et al., Chem. Pharm. Bull., vol. 50,
no. 10 (2002), 1416-1417
- (D18) Internet information "Irganox 1192 Teratology
Study in Rats, source: *toxnet.nlm.nih.gov/cgi-bin/sis/search/f?./temp/~AAOSaGq0:1 8mar02*,
retrieved on 03 August 2007, two pages
- (D19) Database Information, CA registry no. 80387-97-9,
entry "Acetic acid, 2-[[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methyl]thio], 2-

- ethylhexyl ester" Chemical Abstracts Service,
Columbus OH/US, copyright 2007, one page
- (D20) Brochure "Kosmetika Inhaltsstoffe
Funktionen", Industrieverband Körperpflege und
Waschmittel e.V., Frankfurt/Main/DE, second edn.
2005, pages 1-3, 9, 39
- (D21) Römpp Chemie Lexikon, 10th edn., vol. 5 (1998)
Georg Thieme Verlag, Stuttgart/DE, 3515
- (D22) Römpp Chemie Lexikon, 10th edn., vol. 4 (1998)
Georg Thieme Verlag, Stuttgart/DE, 2644-2645
- (D23) Römpp Chemie Lexikon, 10th edn., vol. 2 (1997)
Georg Thieme Verlag, Stuttgart/DE, 1152
- (D24) Römpp Chemie Lexikon, 10th edn., vol. 5 (1998)
Georg Thieme Verlag, Stuttgart/DE, 3750-3751
- (D27) ES-A-370 460
- (D27a) The abstract of (D27) as retrieved in the
database CAPLUS under the accession number
1972:49376, one page

VII. This decision is based on the following sets of claims:

Claims 1-16 of the **Main Request**, submitted during the
oral proceedings before the Board,

claims 1-4 of **Auxiliary Request 1**, filed as auxiliary
request 2 with the letter dated 12 February 2007;

the sole claim of **Auxiliary Request 2** and
the sole claim of **Auxiliary Request 3**,
both filed as auxiliary requests 3 and 4 with the
letter dated 02 July 2009.

- (a) Claim 13 of the Main Request and claim 1 of
Auxiliary Request 1 are identical with claim 21 of

the main request on which the decision under appeal was based (see point IV above).

- (b) The sole claim of Auxiliary Request 2 reads as follows:

"1. Use of a chelating agent and/or an antioxidation agent in the preparation of a polymer emulsion comprising a natamycin for preventing deactivation of said natamycin in said emulsion."

- (c) The sole claim of Auxiliary Request 3 reads as follows:

"1. Use of an antioxidation agent in the preparation of a polymer emulsion comprising a natamycin for preventing deactivation of said natamycin in said emulsion."

VIII. The Appellant considered opposition 1 not to be admissible

- as the notice of opposition had not been signed in the name opponent 1 (now Respondent 1) and
- this deficiency under Rule 56(2) EPC 1973 was not remedied within the time limit set by the opposition division, and that
- the notice of opposition did not indicate the correct address of Respondent 1, contrary to the requirements of Rule 55(a) EPC 1973.

Documents (D16) to (D24) were filed in response to a set of claims submitted during the opposition proceedings. Documents (D27) and (D27a) were filed after the response to the statement setting out the grounds of appeal. Therefore all these documents were late-filed and should not be admitted into the proceedings.

The Appellant considered the subject-matter of claim 13 of the Main request and of claim 1 of Auxiliary Request 1 to be novel. Neither was it mentioned in example 1 of document (D7) that lactic acid was in fact used, nor did this document disclose that lactic acid prevented the decrease of activity of natamycin.

The subject-matter of the sole claims of Auxiliary Requests 2 and 3 was novel as none of the documents cited disclosed the use of an anti-oxidation agent or of a chelating agent for preventing deactivation of natamycin in a polymer emulsion.

The Appellant considered document (D12) to represent the closest prior art. The problem to be solved was to stabilise the activity of natamycin in polymer emulsions. The subject-matter of the claims was inventive as

- this problem was never raised before,
- the polyvinylacetate used in document (D12) was not necessarily in the form of an emulsion (as required in the present claims),

- document (D12) was silent about any stabilising effect of the polymer, the chelating agent and the anti-oxidant, and
- documents (D3), (D6), (D10) and (D11) did not address the problem of stabilising natamycin in a polymer suspension.

Due to the stabilising effect of the anti-oxidation agent or the chelating agent, less of the expensive natamycin could be used.

IX. Respondent 1 fully agreed with the decision under appeal and held opposition 1 to be admissible. Its notice of opposition was duly signed by Mr Visschedijk; the street address indicated in the notice of opposition was correct and the mention of "CSK food research" instead of "CSK food enrichment" was an obvious mistake.

Respondent 2 argued that documents (D16) to (D24), (D27) and (D27a) represented common general knowledge and only served to give a basis for the arguments already presented before the opposition division.

The Respondents held the subject-matter of claim 13 of the main request and claim 1 of Auxiliary Request 1 not to be novel for the following reasons. The addition of lactic acid in example 1 of document (D7) was compulsory in order to adjust the pH of the compositions containing basic salts to a value of 4. Document (D7) disclosed that such an acidic pH value was required in order to obtain a chemically stable suspension. Hence, it was evident that the addition of

lactic acid in said example stabilised the activity of natamycin.

The Respondents argued that the subject-matter of the claims of Auxiliary requests 2 and 3 was not novel in view of the disclosure of document (D12). Example 1f of this document disclosed a composition containing natamycin, ascorbic acid and methyl cellulose. The document taught that the methylcellulose thickener could be replaced by polyvinylacetate. Ascorbic acid stabilised the activity of natamycin as it was used to adjust the pH value and because it was common general knowledge that ascorbic acid stabilised natamycin in an aqueous medium as evidenced in document (D3).

The subject-matter of the claims of Auxiliary Requests 2 and 3 was not inventive. Document (D12) could *inter alia* be considered to represent the closest prior art. This document taught the preparation of stock suspensions. If these were processed to yield cheese-coating compositions, a polymer emulsion would be added, as is disclosed in the description of the prior art in document (D12). The problem to stabilise the activity of natamycin in such a coating composition by adding a chelating agent or an anti-oxidation agent was obvious in view of document (D3).

X. The Appellant requested

- that the decision under appeal be set aside,
- that opposition 1 be rejected as inadmissible, and

- that the patent be maintained on the basis of claims 1-16 of the Main Request, submitted during the oral proceedings before the Board, or on the basis of the following claims: Claims 1-4 of Auxiliary Request 1, filed as auxiliary request 2, with the letter dated 12 February 2007; the sole claim of Auxiliary Request 2 and the sole claim of Auxiliary Request 3, both filed as auxiliary requests 3 and 4 with the letter dated 02 July 2009.

- Furthermore it requested not to admit documents (D16) to (D24), (D27) and (D27a) into the proceedings.

The Respondents requested that opposition 1 be held admissible, that documents (D16) to (D24), (D27) and (D27a) be admitted into the proceedings and that the appeal be dismissed.

XI. At the end of the oral proceedings, the decision of the Board was announced.

Reasons for the Decision

1. The appeal is admissible.

2. Admissibility of opposition 1
 - 2.1 The date of publication and mention of the grant of the patent in suit was 10 March 2004. Hence the period for filing an opposition ran out before the EPC 2000 came

into force in 2007. The admissibility of opposition 1 thus is to be assessed under the EPC 1973.

2.2 The conditions under which an opposition is to be rejected as inadmissible are laid down in Rule 56 EPC 1973.

2.2.1 Rule 56(1) EPC 1973 states that an opposition is inadmissible if it does not comply with the provisions of Article 99(1), Rule 1(1) and Rule 55(c) EPC 1973, unless these deficiencies have been remedied within the opposition period.

2.2.2 The Appellant deemed opposition 1 to be inadmissible as it had not been signed in the name of the opponent, and as the address of opponent 1 contained a wrong postal code (see point VIII above). These are not deficiencies under Article 99(1), Rule 1(1) and Rule 55(c) EPC 1973, so that Rule 56(1) EPC 1973 does not apply to the present case.

2.2.3 Rule 56(2) EPC 1973 states that an opposition is also inadmissible if it does not comply with other provisions of the EPC and the opponent has not remedied the respective deficiency within the time limit set by the opposition division. The deficiencies of opposition 1 mentioned under point 2.2.2 above may be subsumed under Rule 55(a) EPC 1973 (as to the address of the opponent) and Rule 36(3) EPC 1973 (as to the signature). Consequently, Rule 56(2) EPC 1973 applies to these deficiencies.

Hence, the opposition division had to set a time limit to remedy these deficiencies. Consequently, it had also

the power to extend this time limit or to set a new time limit whenever deemed appropriate.

In the protocol of the telephone conversation dated 04 March 2005, the formalities officer of the opposition division agreed to set a new time limit to remedy the deficiencies. Under cover of the telefax received on 08 March 2005, opponent 1 remedied the deficiencies by sending a new opposition form 2300 in which the correct postal code was indicated and which was duly signed by Mr Visschedijk. In the letter dated 07 March 2005 enclosed with said telefax, opponent 1 confirmed that Mr Visschedijk was authorised to sign on its behalf. Therefore, all the deficiencies were remedied before the opposition division had set a new time limit, namely "in good time" as required in Rule 56(2) EPC 1973.

- 2.3 The Board is not aware of any other deficiencies of opposition 1 which could render it inadmissible. Hence, it decided that opposition 1 is admissible.
3. Documents (D16) to (D24), (D27) and (D27a)
 - 3.1 Respondent 2 enclosed documents (D16) to (D24) with its letter dated 13 August 2007. This letter was received by the EPO on 16 August 2007, and thus within the time limit to respond to the statement setting out the grounds of appeal of four months set by the Board in the communication dated 16 February 2007, extended for another two months as confirmed by the communication dated 29 May 2007.

A response to the statement setting out the grounds of appeal filed within the time limit set by the board - including any documents enclosed - generally forms part of the basis of the appeal proceedings (see Article 12(1)(b) and (4) of the Rules of Procedure of the Boards of Appeal; Supplement to OJ EPO 1/2009, 41).

In the present case, the Board saw no reason to deviate from this general practice as documents (D16) to (D24) are short and mostly are to illustrate the common general knowledge. Therefore, the Board admitted these documents into the proceedings.

- 3.2 Respondent 2 enclosed documents (D27) and (D27a) with his letter dated 31 July 2009. These documents disclose the use of polyvinyl acetate emulsions as thickeners. Therefore they may be regarded as being filed in response to the argument of the Appellant that polyvinyl acetate will not necessarily form an emulsion, first raised in its letter dated 02 July 2009 (see page 4 of said letter, the fourth and fifth paragraph under point 6).

Therefore, documents (D27) and (D27a) were considered not to be late-filed. Hence, there was no basis for not admitting these documents.

Main Request and Auxiliary Request 1

4. Novelty of the subject-matter of claim 13 of the Main Request and claim 1 of Auxiliary Request 1

Document (D7) discloses in example 1 blends of natamycin, calcium propionate and/or calcium acetate

which were incorporated into an aqueous emulsion of polyvinyl acetate to form a cheese-coating composition, the pH value of which was adjusted to 4.0, "When necessary", by adding lactic acid (see page 4, lines 40-46). The concentration of the components of the respective cheese-coating compositions is listed in Table 1 on page 5.

The words "When necessary" clearly mean that lactic acid was added whenever the cheese-coating composition had a pH value of more than 4.0, namely in case it was more basic. This provision would not have been mentioned in the document if lactic acid was not added in at least one case, namely at least to that of the compositions 3 to 8 which is most basic. These most basic compositions are compositions 7 and 8 since they contain the slightly basic salts calcium acetate and calcium propionate in the highest concentrations. Therefore, composition 8 of example 1 - which contains natamycin whereas composition 7 does not - must have been adjusted to a pH value of 4.0 by means of lactic acid. Composition 8 thus discloses all the components of the composition to be used in the method of claim 13 of the Main Request and claim 1 of Auxiliary Request 1. The coating composition 8 is stable and the natamycin contained therein is active over a long period of time (see (D7), figure 2 and page 5, lines 31-43). Hence, document (D7) discloses all the features of claim 13 of the Main Request and claim 1 of Auxiliary Request 1, so that their subject-matter is not novel.

Since the Board can only decide on a request as a whole, the Main Request and Auxiliary Request 1 are rejected.

Auxiliary Requests 2 and 3

5. Novelty

The sole claims of these requests require that the anti-oxidation agent (and/or chelating agent) be used "for preventing deactivation of said natamycin" (see points VII(b) and (c) above).

The Respondents held the subject-matter of the claims of these requests not to be novel in view of document (D12).

In example 1f of this document, ascorbic acid is used. The Respondents argued that it was used to adjust the pH to a certain value which stabilises the activity of natamycin. However, in said example, the pH value "was adjusted to 4 by means of ... sodium hydroxide." (see column 7, lines 9-11). That means that ascorbic acid was not used in order to adjust the pH value. Nor does document (D12) disclose that ascorbic acid might prevent deactivation of natamycin in any other way. Moreover, the Board is not aware of any other prior art document disclosing the subject-matter of the sole claims of Auxiliary Requests 2 and 3. Therefore, the subject-matter of these claims is novel.

6. Inventive step

6.1 The closest prior art

The closest state of the art is normally a prior art document disclosing subject-matter with the same

objectives as the claimed invention and having the most relevant technical features in common.

The objective of the subject-matter of the sole claims of Auxiliary Requests 2 and 3 was to prevent deactivation of natamycin in a polymer emulsion (see page 3, lines 11-18 of the application as filed).

Document (D7) is not concerned with the stability of natamycin except that it mentions in the discussion of the prior art that natamycin "is relatively unstable at low pH" (see page 2, lines 51-52).

Document (D12) relates "to chemically, physically and microbially stable concentrated suspensions of ... natamycin" (see column 1, lines 1-3) which may contain polyvinylacetate (see claim 5).

Therefore, it is rather document (D12) that is to be considered as representing the closest prior art.

Document (D12) discloses stable concentrated suspensions of natamycin useful for preparing liquid compositions for treating cheeses, sausages and agricultural products (see column 1, lines 1-9, and column 2, lines 49-56). The stability of the suspensions is increased to more than two weeks by keeping the pH within a range of from 3 to 6 and by adding a thickener (see column 3, lines 1-15).

6.2 The problem to be solved

The problem addressed in the application as originally filed was to prevent the deactivation of natamycin in

an aqueous medium containing an emulsion polymer (see page 1, lines 27-29, and page 3, lines 12-22).

This problem is solved (see Table 1 on page 7 of the patent in suit (not according to the invention) as compared to Tables 2-6 on pages 8 and 9 (where an anti-oxidant (ascorbic acid) or EDTA (salt) was employed)).

6.3 Obviousness of the solution

6.3.1 The inactivation of natamycin in aqueous media is mentioned in document (D12) (see column 2, lines 20-22 and 43-45). There was no reason to believe that the person skilled in the art would think that this problem did not occur in the presence of polymer emulsions. Hence, posing this problem cannot contribute to the presence of an inventive step.

6.3.2 The person skilled in the art trying to stabilize natamycin in these compositions would have consulted document (D3), as this general article on natamycin deals with the stability of natamycin in chapter 5.

In particular, this document mentions that the inactivation of natamycin by peroxides or oxygen be prevented by anti-oxidants, such as ascorbic acid (see the first paragraph on page 544).

Therefore, the person skilled in the art was aware of the fact that the ascorbic acid used in example 1f of document (D12) did in fact prevent the natamycin from being deactivated. On the other hand it was obvious to the person skilled in the art to add anti-oxidants in

order to stabilise natamycin against degradation in a composition containing the same.

- 6.3.3 The Board agrees with the Appellant in that document (D12) does not directly and unambiguously disclose compositions to which a polymer emulsion has been added. This is due to the fact that this document is directed to concentrated aqueous stock suspensions of natamycin (see column 2, lines 49-56).

On the one hand the Appellant did not provide any evidence that this feature contributed to the solution of the problem posed, so that it might not to be taken into account when assessing inventive step (see T 37/82, OJ EPO 1984, 71, point 3 of the reasons).

On the other hand, the addition of the polymer emulsion might be linked to the use of the respective compositions as cheese-coatings (see page 5, lines 17-20 of the application as filed), namely to a different problem. Document (D12) also discloses that the stock suspensions disclosed are "very useful ... for the large scale production of coating emulsions for the treatment of cheeses." (see column 6, lines 25-29; see also column 3, lines 20-24). The only information in document (D12) as to the additional components of cheese-coating compositions is found in the section discussing the prior art, namely in column 1, lines 17-20: "Cheeses are treated by immersion in a suspension of natamycin in water or covered by an emulsion of a polymer (mostly polyvinyl acetate) in water containing natamycin." If the person skilled in the art wanted to produce cheese-coating compositions from the concentrated stock suspension disclosed in document

(D12) it was thus most obvious to dilute the stock suspension with a polymer emulsion.

- 6.3.4 Therefore, it was obvious to the person skilled in the art who was to provide a cheese-coating composition and to prevent the natamycin contained therein from deactivation, to solve these problems by
- diluting the concentrated stock suspensions disclosed in document (D12) with a polymer emulsion; and by
 - using an anti-oxidation agent.

Consequently, the subject-matter of the sole claims of Auxiliary Requests 2 and 3 does not involve an inventive step.

7. To sum up, the subject-matter of claim 13 of the Main Request and that of claim 1 of Auxiliary Request 1 lack novelty, while the subject-matter of the sole claims of Auxiliary Requests 2 and 3 is not inventive. The Appellant did not file any additional auxiliary requests.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

P. Cremona

P. Ranguis