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**Datasheet for the decision
of 6 August 2015**

Case Number: T 0992/14 - 3.3.01

Application Number: 10179191.1

Publication Number: 2289331

IPC: A01N43/80, A01P1/00, A01N43/90

Language of the proceedings: EN

Title of invention:
Microbicidal composition

Applicant:
Rohm and Haas Company

Headword:
Microbicides/ROHM AND HAAS

Relevant legal provisions:
EPC Art. 123(2)

Keyword:
Added subject matter (yes), inadmissible amendment based on weight ratio disclosed only in examples

Decisions cited:
T 0962/98



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 0992/14 - 3.3.01

D E C I S I O N
of Technical Board of Appeal 3.3.01
of 6 August 2015

Appellant: Rohm and Haas Company
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Representative: Hoggins, Mark Andrew
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 13 December
2013 refusing European patent application No.
10179191.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman A. Lindner
Members: L. Seymour
M. Blasi

Summary of Facts and Submissions

I. The present appeal lies from the decision of the examining division refusing the European patent application No. 10 179 191.1, published as EP-A-2 289 331, and filed as a divisional application of European patent applications No. 05 257 046.2 and 07 075 457.7.

II. The following abbreviations are used below:

BIT 1,2-benzisothiazolin-3-one

CTAC *cis*-1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride

III. The decision under appeal was based on a main request and an auxiliary request filed with letters dated 16 April 2012 and 14 January 2013, respectively.

The single claim of the main request reads as follows:

"1. A microbicidal composition comprising
a) 1,2-benzisothiazolin-3-one; and
b) *cis*-1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride,

wherein the weight ratio of 1,2-benzisothiazolin-3-one to *cis*-1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride is:

- i. from 1:4 to 1:10; or
- ii. from 1:80 to 1:240."

The single claim of the auxiliary request differed from that of the main request in that range (ii) was replaced as follows:

"ii. from 1:80 to 1:120; or
iii. 1:240."

The examining division considered that the subject-matter claimed lacked an inventive step.

- IV. The appellant (applicant) lodged an appeal against this decision. With its statement of grounds of appeal, the appellant filed a main request and five auxiliary requests.

The main request and auxiliary request 1 are identical to the requests underlying the decision under appeal, as set out above in point III.

In auxiliary request 2, the weight ratio of BIT to CTAC is restricted to "from 1:4 to 1:10".

Auxiliary requests 3 to 5 correspond to the previous three requests with the following additional limitation:

"and wherein said composition contains less than 1000 ppm of 5-chloro-2-methyl-4-isothiazolin-3-one".

- V. In a communication sent as annex to the summons to oral proceedings, the board *inter alia* pointed to issues to be discussed pursuant to Article 123(2) EPC.
- VI. With letter dated 4 July 2015, the appellant responded to the issues raised by the board.
- VII. Oral proceedings were held before the board on 6 August 2015.

VIII. The appellant's arguments on the issue of added subject-matter (Article 123(2) EPC) may be summarised as follows:

With respect to the basis for the claimed subject-matter, the appellant pointed to page 2, lines 22 to 26, in combination with the data provided in Table 1 of the application as originally filed. In particular, with respect to the ratio of "from 1:4 to 1:10", the data for *E. coli* demonstrated synergistic biocidal activity for compositions comprising BIT and CTAC in a plurality of weight ratios across the scope, including all end points, of the claimed ranges. This provided sufficient basis for restricting ratios in the more general context of the claims.

In this regard, the appellant acknowledged that the incorporation of the restricted ratios into the claims might be considered to be an intermediate generalisation of the specific embodiments disclosed in Table 1. However, the appellant argued that, in the present case, these amendments conformed with the criteria set out in decision T 962/98, point 2.5 of the reasons. Thus, from the application as a whole, the skilled person would understand that synergism represented an essential attribute of the claimed microbicidal compositions. Moreover, the application as originally filed generally disclosed microbicidal compositions comprising a mixture of BIT and CTAC, that is, optionally including additional components, with a preferred range of weight ratios of BIT to CTAC of 1:4 to 1:240. Further, the skilled person was unambiguously taught from Table 1 that, by selecting specific subranges from said preferred range as now claimed, a synergistic microbicidal mixture was obtained. Consequently, the claimed subject-matter was the result

of unambiguous information that a skilled person would draw from a review of the examples and the content of the application as originally filed.

- IX. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request or, alternatively, on the basis of one of the auxiliary requests 1 to 5 filed with the statement of grounds of appeal dated 1 April 2014.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request - Article 123(2) EPC*

Claim 1 is directed to a microbicidal composition comprising combinations of BIT with CTAC, in a range of weight ratios of *inter alia* from "1:4 to 1:10".

It is undisputed that the ranges generally disclosed in the application as original filed for these components is preferably "from 1:2 to 1:240, more preferably from 1:4 to 1:240" (see page 2, lines 24 to 26). The range now claimed is formed by combining the lower limit of the more preferred range with an upper limit based on the ratio of "1:10" appearing in Table 1 of the application as originally filed.

According to the decision T 962/98 (point 2.5 of the reasons) referred to by the appellant, characteristics taken from a working example may be used for restricting the scope of a claim, "if the skilled person can recognize without any doubt from the application as filed that those characteristics are not

closely related to the other characteristics of the working example and apply directly and unambiguously to the more general context". In order to allow an assessment of whether these criteria are fulfilled in the present case, Table 1 is reproduced below:

Table 1

First Component (A) = BIT
 Second Component (B) = Cis-1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride

Microorganism	Q _a	Q _b	SI	A/B
A. niger 16404 - PDB (3 days)	0	800	1.00	-----
	2.5	600	0.83	1/240
	2.5	800	1.08	1/320
	5	600	0.92	1/120
	5	800	1.17	1/160
	10	600	1.08	1/60
	20	400	1.17	1/20
	30	0	1.00	-----
Microorganism	Q _a	Q _b	SI	A/B
P. aeruginosa 15442 - M9GY (24 hours)	0	400	1.00	-----
	20	300	1.08	1/15
	40	200	1.17	1/5
	60	100	1.25	1/1.7
	60	0	1.00	-----
Microorganism	Q _a	Q _b	SI	A/B
E. coli 8739 - M9GY (48 hours)	0	400	1.00	-----
	5	300	1.25	1/60
	7.5	30	0.83	1/4
	7.5	40	0.85	1/5
	7.5	50	0.88	1/7
	7.5	60	0.90	1/8
	7.5	80	0.95	1/10
7.5	100	1.00	1/13	
10	0	1.00	-----	

Microorganism	Q _a	Q _b	SI	A/B
C. albicans 10231 - PDB (24 hours)	0	800	1.00	-----
	5	400	0.75	1/80
	5	500	0.88	1/100
	5	600	1.00	1/120
	15	100	0.88	1/7
	15	200	1.00	1/13
	20	0	1.00	-----

The synergistic ratios of BIT/Cis-1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride range from 1/4 to 1/240. The BIT/Cis-1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride combinations show enhanced control of bacteria, yeast and mold.

From a review of this table, it can be seen that the conclusion reached in the footnote of Table 1 is based on the results presented therein as a whole, as reflected in the more preferred range disclosed in the description, as set out above. However, when it comes to the individual results listed therein, it is apparent, from the table itself in combination with the preceding section of the application as originally filed (page 6, line 1 to page 7, line 14), that the synergy tests were conducted on specific binary compositions, and under specific conditions, whereby the SI values were calculated based on the following equation:

$$Q_a/Q_A + Q_b/Q_B = \text{Synergy Index ("SI")}$$

wherein:

Q_A = concentration of compound A (first component) in ppm, acting alone, which produced an end point (MIC of Compound A).

Qa = concentration of compound A in ppm, in the mixture, which produced an end point.

QB = concentration of compound B (second component) in ppm, acting alone, which produced an end point (MIC of Compound B).

Qb = concentration of compound B in ppm, in the mixture, which produced an end point.

The ratio in the last column is calculated from dividing Qa/Qb.

On review of the above information, the skilled person would therefore readily recognise that each individual ratio is closely linked to the other characteristics of the composition, most notably the concentrations of components as tabulated, which are adjusted for use in a particular microorganism for a specific incubation time, in order to determine the corresponding SI values. This is also true of the single ratio of "1/10" appearing in Table 1 (see data for *E. coli*): although identifiable as representing an upper limit of a series for which synergy is observed, this value is associated with specific further parameters, as outlined above.

Consequently, the board concludes that the ratio of "1/10" is only disclosed in the application as originally filed in combination with the particular features of the given example, and is not directly and unambiguously identifiable as representing an upper limit of the general range defining the antimicrobial compositions as claimed. Contrary to the appellant's submissions, it cannot be accepted that the ratios for which synergy has been observed in a specific context can be used as a reservoir for creating any number of

distinct subranges of weight ratios in the more general context of the claims.

Hence, the main request is rejected for non-compliance of the subject-matter of their respective claims 1 with Article 123(2) EPC.

3. *Auxiliary requests 1 to 5 - Article 123(2) EPC*

The respective claims of auxiliary requests 1 to 5 each contain the feature defining a range of weight ratios of "from 1:4 to 1:10".

Therefore, the assessment with respect to added matter presented above in point 2 applies equally to these requests.

Consequently, the subject-matter of these requests does not meet the requirements of Article 123(2) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. Schalow

A. Lindner

Decision electronically authenticated