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Datasheet for the decision of 22 June 2023

Case Number: T 0772/20 - 3.3.02

Application Number: 15813757.0

Publication Number: 3232782

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Language of the proceedings: EN

Title of invention:

ACTIVE COMPOUND COMBINATIONS COMPRISING A (THIO)CARBOXAMIDE DERIVATIVE AND FUNGICIDAL COMPOUND(S)

Applicant:

Bayer CropScience Aktiengesellschaft

Headword:

Relevant legal provisions:

EPC Art. 56
RPBA 2020 Art. 12(4), 12(6)

Keyword:

Inventive step
Amendment to case
Late-filed auxiliary requests

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 0772/20 - 3.3.02

D E C I S I O N
of Technical Board of Appeal 3.3.02
of 22 June 2023

Appellant: (Applicant)	Bayer CropScience Aktiengesellschaft Alfred-Nobel-Straße 50 40789 Monheim am Rhein (DE)
Representative:	BIP Patents c/o Bayer Intellectual Property GmbH Alfred-Nobel-Straße 50 40789 Monheim am Rhein (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 13 November 2019 refusing European patent application No. 15813757.0 pursuant to Article 97(2) EPC**

Composition of the Board:

Chairman	M. O. Müller
Members:	S. Bertrand
	M. Blasi

Summary of Facts and Submissions

I. The appeal by the applicant ("appellant") lies from the decision of the examining division to refuse European patent application No. 15 813 757.0.

II. Claim 1 of the claim request filed on 29 August 2019, the sole request which the examining division had to consider in its decision, relates to a fungicidal composition comprising a mixture of three active compounds.

III. The following document is cited in the current decision:

D1 WO 2016/096782 A1

IV. In the impugned decision, the examining division's conclusions included that the subject-matter of the claims of the request on file did not involve an inventive step in view of D1 as the closest prior art.

V. In its statement of grounds of appeal, the appellant contested the examining division's reasoning and submitted a set of claims of a main request allegedly identical to the one considered in the decision under appeal, and sets of claims of a first and a second auxiliary request.

VI. The board issued a communication pursuant to Article 15(1) RPBA 2020 in preparation for the oral proceedings. The board gave its preliminary opinion, including that the subject-matter of claim 1 of the main request did not involve an inventive step in view

of D1 as the closest prior art and that the board intended not to admit the first and second auxiliary requests into the proceedings.

VII. In a letter dated 14 June 2023, the appellant submitted a corrected version of the claims of the main request and of the first auxiliary request.

VIII. Oral proceedings before the board were held by videoconference on 22 June 2023 in the presence of the appellant. In these oral proceedings, the appellant maintained its submissions in relation to the main request as already presented in writing.

IX. The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the set of claims of

- the main request filed with the letter of 14 June 2023, or alternatively
- the first auxiliary request filed with the same letter of 14 June 2023, or further alternatively
- the second auxiliary request filed with the statement of grounds of appeal.

X. The appellant's case is summarised in the Reasons below.

Reasons for the Decision

Main request

1. The set of claims of the main request as corrected is the same as that considered by the examining division in its decision. Claim 1 of the main request reads as follows:

"*1. An active composition comprising*
(A) N-(5-chloro-2-isopropylbenzyl)-N-cyclopropyl-3-(difluoromethyl)-5-fluoro-1-methyl-1H-pyrazole-4-carboxamide or an agrochemically acceptable salt thereof,
(B) prothioconazole, and
(C) tebuconazole, trifloxystrobin or fluopyram."

The composition of claim 1 of the main request is a ternary composition (comprises three active compounds) which achieves a synergistic effect extending the range of action of the active compounds when taken alone or in a binary composition (page 1, lines 24 to 27 of the description).

In the following, N-(5-chloro-2-isopropylbenzyl)-N-cyclopropyl-3-(difluoromethyl)-5-fluoro-1-methyl-1H-pyrazole-4-carboxamide or an agrochemically acceptable salt thereof is referred to as (A) and prothioconazole as (B). (C) in the following represents one of tebuconazole, trifloxystrobin and fluopyram.

2. *Article 56 EPC - D1 as closest prior art*

2.1 D1 was taken as the closest prior art by the examining division. D1 discloses fungicidal binary compositions, i.e. compositions comprising a mixture of two active compounds.

The binary compositions of D1 achieve a synergistic effect extending the range of action of the active compounds when taken alone (page 1, lines 19-22 of D1).

This therefore corresponds to the aim of the present invention. This was not disputed by the appellant.

Table 2d on page 56 of D1 discloses a binary composition ("A5 + B1.41"). The first active compound (active compound "A5" in the table) is N-(5-chloro-2-isopropylbenzyl)-N-cyclopropyl-3-(difluoromethyl)-5-fluoro-1-methyl-1H-pyrazole-4-carboxamide, i.e. (A) according to claim 1 of the main request. The second active compound of the binary composition is prothioconazole (active compound "B1.41" in the table), i.e. (B) according to claim 1 of the main request.

2.2 Distinguishing feature

The distinguishing feature of claim 1 in view of the composition in table 2d of D1 is the presence of an additional active compound, i.e. tebuconazole, trifloxystrobin or fluopyram ((C) according to claim 1 of the main request). This was the examining division's finding, and was not disputed by the appellant.

2.3 Objective technical problem

According to the appellant, the effect linked to the distinguishing feature was an additional synergistic fungicidal effect as shown by the examples in the application as filed and the technical data provided in a letter dated 11 January 2018 and the one dated 29 August 2019. The objective technical problem was the provision of improved fungicidal compositions.

The examples of the application as filed (tables A1, A2, B1, C1 and D1) show the efficacy in *in vivo* preventive tests when using ternary compositions. The ternary compositions comprise (i) compound (I-1), (ii) prothioconazole and (iii) one of trifloxystrobin (table A1), tebuconazole (tables A2, B1, C1 and D1) or fluopyram (tables A2, B1, C1 and D1). Compound (I-1) corresponds to (A) of claim 1. Prothioconazole corresponds to (B) of this claim. Trifloxystrobin, tebuconazole or fluopyram corresponds to (C) of this claim. Thus the above compositions comprise (A), (B) and (C) and are compositions as claimed. The tables show the observed efficacy ("found") and the expected efficacy as calculated using Colby's formula ("calc.").

The only comparison of a composition according to claim 1 of the main request with a composition representing that in table 2d of D1 is found in table A1 of the application as filed. More specifically, the composition "(I-1) + trifloxystrobin + prothioconazole" (last row in table A1) is a composition according to claim 1 of the main request. The composition (I-1) + prothioconazole (third row from the bottom) represents the composition in table 2d of D1. The composition (I-1) + trifloxystrobin + prothioconazole (according to claim 1 of the main request) has an observed efficacy of 95%. The

composition (I-1) + prothioconazole (representing D1) has an observed efficacy of 80%. The composition according to claim 1 of the main request thus has a higher observed efficacy than the composition representing D1.

Furthermore, table A1 of the application as filed shows that the observed efficacy of composition "(I-1) + trifloxystrobin + prothioconazole" of 95% is greater than expected (56% "calc.").

The data provided by the appellant in its letter of 11 January 2018 comprises calculations using Colby's formula based on binary associations of the ingredients of the composition found in table A1 of the application as filed. The table on page 3 of this letter is reproduced in part below:

[(I-1) + trifloxystrobin] + prothioconazole 1:1:10	20+20+200	95	86
[(I-1) + prothioconazole] + trifloxystrobin 1:10:1	20+200+20	95	86
(I-1) + [trifloxystrobin + prothioconazole] 1:1:10	20+20+200	95	91

As set out above, compound (I-1), prothioconazole and trifloxystrobin correspond respectively to (A), (B) and (C) in claim 1. In the above table, each of the compositions is thus according to claim 1 of the main request. The observed value ("95") for each of the compositions is greater than the expected value (calculated with Colby's formula on the basis of binary associations).

The appellant's letter of 29 August 2019 provides further calculations using Colby's formula based on binary associations of the ingredients of the composition found in tables A1 and A2 of the

application as filed ((I-1) (i.e (A)), prothioconazole (i.e. (B)) and trifloxystrobin, tebuconazole or fluopyram (i.e. (C))). Like the results found in the letter of 11 January 2018, the calculations in the letter of 29 August 2019 show that the found efficacy of (A), (B) and trifloxystrobin, (A), (B) and tebuconazole (C), and (A), (B) and fluopyram (C), i.e. three compositions according to claim 1 of the main request, is greater than the expected values.

Based on the above considerations, the objective technical problem may be formulated as the provision of a fungicidal composition exhibiting further synergism over that achieved by the compositions of table 2d of D1. This objective technical problem, as defined by the appellant, is different from the examining division's formulation of an improved fungicidal composition.

2.4 Obviousness

2.4.1 The solution proposed by claim 1 of the main request is obvious in view of D1 alone for the following reasons.

Table 4d of D1 teaches that the combination of A5, i.e. (A) in the terms of claim 1 of the main request, and tebuconazole, corresponding to (C) of claim 1 of the main request, has a synergistic fungicidal effect, see row "A5 + B1.47". The observed efficacy is 90% in comparison with the expected value of 0%.

The skilled person would thus have replaced compound A5 in the composition disclosed in table 2d of D1 ((A) in the terms of claim 1 of the main request) with a synergistic mixture of A5 + B1.47, i.e. (A) + (C) in terms of claim 1 of the main request, when seeking further synergism. More specifically, the skilled

person would have expected that the synergism between A5 + B1.47 ((A) + (C) of claim 1 of the main request) as taught by table 4d of D1 would add to that between A5 + B1.41 ((A) + (B) in terms of claim 1 of the main request) observed in table 2d of D1. Such a composition comprising ingredients A5 + B1.41 + B1.47 is a composition comprising compounds (A), (B) and (C) as defined in claim 1 of the main request. Thus the skilled person would have arrived at a composition according to claim 1 of the main request.

2.4.2 This conclusion is supported by the claims of D1. More specifically, claim 1 of D1 refers to synergistic compositions comprising two fungicides, namely a first fungicide (A) having formula (I) and a second fungicide. As follows from claim 2 of D1, the first fungicide covered by formula (I) of claim 1 of D1 may be compound A5. As set out above, this corresponds to (A) according to claim 1 of the main request. The second fungicide of claim 1 of D1 is defined as "at least one" further active fungicidal compound B. As follows from claim 4 of D1, this compound B of claim 1 of D1 encompasses prothioconazole, i.e. (B) according to claim 1 of the main request, as well as tebuconazole, trifloxystrobin and fluopyram, i.e. (C) according to claim 1 of the main request. The term "at least one further" used in claim 1 as regards compound (B) of this claim thus points to ternary compositions of (A), (B) and (C) as defined in claim 1 of the main request.

2.4.3 Hence the skilled person, starting from the composition of table 2d of D1 and faced with the objective technical problem formulated above, would have arrived at the subject-matter of claim 1 of the main request.

2.5 The appellant submitted that the synergistic effect of a composition was not predictable. For that reason, the synergistic composition of claim 1 of the main request was not obvious in view of D1.

Whether, as a general rule, the synergistic effect of a composition is not predictable is not relevant in the circumstances of the present case. In view of the specific disclosures of D1 as set out above, the skilled person would actually have expected that the synergism observed between (A) and (C) would add to that observed between (A) and (B), so a composition comprising (A), (B) and (C) would be more synergistic than a composition comprising (A) and (B) or a composition comprising (A) and (C).

2.6 The appellant also submitted that the synergism of a composition was weight ratio-dependent and the prior art did not show that the binary compositions (A) + (B) and (A) + (C) were synergistic at a same weight ratio.

The board does not agree. Claim 1 of the main request does not require any weight ratio between (A), (B) and (C). If, as submitted by the appellant, the synergism of a composition is weight ratio-dependent, it would then mean that the claimed compositions did not show enhanced synergy over the entire scope claimed. As a consequence, the objective technical problem, considering D1 as the closest prior art, could not be the provision of a fungicidal composition exhibiting further synergism over that achieved by the compositions of table 2d of D1 but only the provision of a further synergistic fungicidal composition. As set out above, since D1 (claim 1) teaches synergistic fungicidal compositions comprising (A) and "at least one" further active fungicidal compound which can be

(B) and (C), the skilled person would have combined (A), (B) and (C) and would have arrived at the subject-matter of claim 1 of the main request.

2.7 Finally, the appellant submitted that the synergism of a composition was target (disease)-dependent.

The board notes the following: D1 discloses that the binary composition comprising, in terms of claim 1 of the main request, at least (A) and (B) and the binary composition comprising, in terms of claim 1 of the main request, (A) and (C) are synergistically effective for controlling phytopathogenic harmful fungi (e.g. claim 9 of D1). Thus D1 teaches that synergism for the same disease would be achieved for a composition comprising (A), (B) and (C).

Therefore the appellant's submission regarding the target dependency is not convincing.

2.8 For the above reasons, the subject-matter of claim 1 of the main request does not involve an inventive step in view of D1 alone.

3. The main request is not allowable.

First and second auxiliary requests

4. Claim 1 of the first auxiliary request differs from claim 1 of the main request in that (C) is limited to fluopyram.

5. Claim 1 of the second auxiliary request differs from claim 1 of the main request in that weight ratios are specified. The weight ratio (A):(B):(C) is 1:4:4 when

(C) is tebuconazole, 1:10:1 when (C) is trifloxystrobin and 1:3:1.5 when (C) is fluopyram.

6. Admittance

6.1 A corrected clean version of the claims of the first auxiliary request was filed with the letter of 14 June 2023. The claims are identical to the claims of the first auxiliary request filed with the statement of grounds of appeal, except that the obvious error "~~6~~" was deleted in claim 3 of the clean copy. The set of claims of the second auxiliary request was filed with the statement of grounds of appeal.

6.2 The admittance of both requests is governed by Article 12(4) and (6) RPBA 2020, which applies to the case at hand as the statement of grounds of appeal was filed after the date of entry into force of the revised version of the Rules of Procedure (1 January 2020, see Articles 24 and 25 RPBA 2020).

Both auxiliary requests were first presented on appeal and differ from the sole claim request underlying the impugned decision (i.e. the main request in the appeal proceedings). They thus constitute an amendment of the appellant's case under Article 12(4) RPBA 2020. Their admittance is thus subject to the board's discretion.

Under Article 12(6), second sentence, RPBA 2020, the board shall not admit *inter alia* requests which should have been submitted in the proceedings leading to the decision under appeal, unless the circumstances of the appeal case justify their admittance.

The board acknowledges that amendments made in both auxiliary requests, i.e. the limitation of (C) to

fluopyram and the specification of the weight ratio (A):(B):(C), represent an attempt to overcome the objection of lack of inventive step made against the main request based on D1 as the closest prior art. However, this objection had already been raised in the first communication of the examining division (point 3) issued on 3 August 2018. The appellant had thus had sufficient time during the proceedings before the examining division to react to the objection. Thus it cannot be regarded as a circumstance justifying the filing of both auxiliary requests in the appeal proceedings. The appellant could and should therefore have filed both auxiliary requests before the examining division.

6.3 For these reasons, the board has decided not to admit the first and second auxiliary requests into the proceedings, in accordance with Article 12(4) and (6) RPBA 2020.

7. None of the appellant's requests is both admitted and allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Schalow M. O. Müller

Decision electronically authenticated