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**Datasheet for the decision
of 9 September 2024**

Case Number: T 0318/22 - 3.3.02

Application Number: 15703143.6

Publication Number: 3094631

IPC: C07D403/12, C07D401/12,
C07D239/34, C07D409/12,
C07D413/12, C07D417/12,
A61K31/506, A01N43/54

Language of the proceedings: EN

Title of invention:
PYRIMIDINYLOXY BENZENE DERIVATIVES AS HERBICIDES

Patent Proprietor:
FMC Corporation

Opponent:
Mainstay IP B.V.

Relevant legal provisions:
EPC Art. 56, 83, 123(2)
EPC R. 103(1)(a)
RPBA 2020 Art. 12(3), 12(5), 12(6)

Keyword:

Amendments

Sufficiency of disclosure

Inventive step

Reimbursement of appeal fee - (no)

Decisions cited:

G 0002/21, T 0939/92, T 0116/18



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Case Number: T 0318/22 - 3.3.02

D E C I S I O N
of Technical Board of Appeal 3.3.02
of 9 September 2024

Appellant: Mainstay IP B.V.
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
10 December 2021 concerning maintenance of the
European Patent No. 3094631 in amended form.**

Composition of the Board:

Chairman M. O. Müller
Members: P. O'Sullivan
L. Bühler

Summary of Facts and Submissions

I. The appeal of the opponent (hereinafter appellant) lies from the decision of the opposition division according to which European patent 3 094 631 in amended form was found to meet the requirements of the EPC.

II. The following documents *inter alia* were submitted by the parties in opposition proceedings:

D7 : WO 94/17059 A1

D7a: English language machine translation of D7

D9 : Data submitted by the patent proprietor (hereinafter respondent) with the reply to the notice of opposition (page 12-14)

D10: Data submitted by the respondent in opposition proceedings with the letter dated 28 September 2021 (D9 in the contested decision)

III. Oral proceedings were scheduled in accordance with the parties' requests. With letter dated 28 May 2024 the appellant stated that it would not attend the scheduled oral proceedings. Since the board decided to dismiss the appeal on the basis of the written submissions, there was no need to hold oral proceedings. The scheduled oral proceedings were cancelled.

IV. Requests relevant to the present decision

The appellant requested that the contested decision be set aside and that the patent be revoked in its entirety. Additionally, reimbursement of the appeal fee was requested.

The respondent requested dismissal of the appeal, implying maintenance of the patent on the basis of the main request found allowable by the opposition division.

The respondent also requested that the appellant's submissions regarding sufficiency of disclosure not be admitted into the proceedings.

- V. For the text of claim 1 of the main request, reference is made to the reasons for the decision set out below.
- VI. For the relevant party submissions, reference is made to the reasons for the decision set out below.

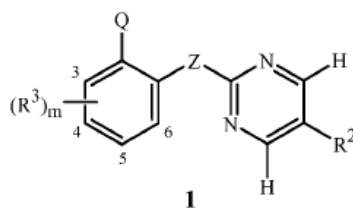
Reasons for the Decision

Main request (patent in amended form found allowable by the opposition division)

1. Amendments - Article 123(2) EPC

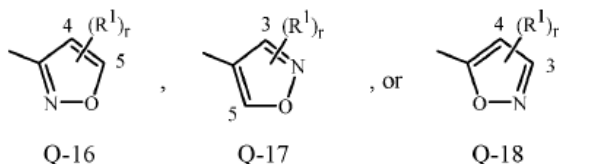
1.1 Claim 1 of the main request reads as follows:

"A compound selected from Formula 1, A-oxides and salts thereof,



wherein

Q is selected from



wherein r is 0, 1 or 2;

each R^1 is independently halogen, cyano, C_1 - C_4 alkyl, C_1 - C_4 haloalkyl, C_1 - C_4 alkoxy, C_1 - C_4 haloalkoxy or SO_nR^{1A} ;

R^2 is halogen or C_1 - C_4 alkyl;

each R^3 is independently halogen, cyano, C_1 - C_4 alkyl, C_2 - C_4 alkenyl, C_2 - C_4 alkynyl, C_1 - C_4 haloalkyl, C_2 - C_4 alkylcarbonyl, C_2 - C_4 haloalkylcarbonyl, C_2 - C_4 alkoxy carbonyl, C_1 - C_4 alkoxy, C_1 - C_4 haloalkoxy, C_2 - C_6 alkoxyalkyl or C_2 - C_6 haloalkoxyalkyl;

Z is 0;

m is 0 or 1;

each n is independently 0, 1 or 2; and

each R^{1A} is independently C_1 - C_4 alkyl or C_1 - C_4 haloalkyl."

- 1.2 The appellant submitted that claim 1 contravened Article 123(2) EPC. Specifically, the selection in claim 1 of the options Q-16, Q-17 or Q-18 for variable Q from the 55 possible structures for the Q moiety disclosed in the application as filed (pages 11-12) was not derivable from the application as filed, and represented three separate selections. Furthermore, claim 4 of the application as filed did not serve as appropriate basis for the selection of Q-16, Q-17 or Q-18 from Q-7 to Q-24, at least because Q-17 was not a

preferred Q group according to the application as filed. Hence, the singling out of Q-16, Q-17 and Q-18 in claim 1 represented an unallowable intermediate generalisation of the disclosure of application as filed.

- 1.3 The board agrees with the respondent that claim 4 of the application as filed provides basis for claim 1 of the main request.

- 1.4 Specifically, it was not disputed by the appellant that claim 4 of the application as filed differs in scope from claim 1 of the main request solely in that it defines the group Q as being selected from Q-7 to Q-24. The three options for Q in claim 1 of the main request, namely Q-16, Q-17 or Q-18, are arrived at by deletion from a single list of alternatives Q-7 to Q-24, and merely results in a limitation or a shrinking of the original Markush definition. According to established case law, such a limitation does not infringe Article 123(2) EPC (see Case Law of the Boards of Appeal, 10th Edition, II.E.1.6.3). As stated by the respondent, there is also no intermediate generalisation in this selection. The claimed general Markush formula is directly and unambiguously derivable from claim 4 of the application as filed as set out above, and none of the Q groups selected are disclosed in the application as filed as being inextricably linked to other features not present in claim 1 of the main request.

- 1.5 Consequently, the subject-matter of claim 1 of the main request meets the requirements of Article 123(2) EPC.

2. Sufficiency of disclosure

In relation to this ground for opposition, the appellant firstly stated that it maintained its submissions made during opposition proceedings. Secondly, it submitted that many of the claimed compounds likely cannot be prepared (grounds of appeal, point 5.2).

2.1 Admittance

2.1.1 The respondent requested that the appellant's submissions in relation to sufficiency of disclosure not be admitted into the proceedings on the ground of lack of substantiation. Furthermore, the objection that many compounds claimed likely cannot be prepared was submitted for the first time with the statement of grounds of appeal.

2.1.2 According to Article 12(3) RPBA, the statement of grounds of appeal shall contain a party's complete appeal case, and set out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld, and should specify expressly all the requests, facts, objections, arguments and evidence relied on. According to Article 12(5) RPBA, the board has discretion not to admit any part of a submission by a party which does not meet the requirements of Article 12(3) RPBA.

2.1.3 These requirements are not met in the present case by the mere reference to the appellant's submissions in opposition proceedings. In particular, such a reference provides no reasons as to why the conclusion of the opposition division in the contested decision in relation to sufficiency of disclosure (point 15 of the

decision) should be reversed. Hence, in relation to the mere reference to submissions in opposition proceedings, sufficiency of disclosure is not substantiated by the appellant in appeal proceedings.

2.1.4 Consequently, in accordance with Article 12(5) RPBA, the board decides not to admit the referenced submissions made during opposition proceedings into the appeal proceedings.

2.1.5 In relation to the objection that many compounds claimed likely cannot be prepared, the board notes that neither the contested decision nor the appellant's written submissions during opposition proceedings appear to address this point. The appellant's objection thus represents an amendment of its appeal case. The board does not see any reason, and none was provided by the appellant, why this amendment should be admitted under Article 12(4) RPBA.

2.1.6 Furthermore, according to Article 12(6) RPBA, the board shall not admit requests, facts, objections or evidence which should have been submitted in the proceedings leading to the decision under appeal, unless the circumstances of the appeal case justify their admittance.

2.1.7 However, there is no apparent justification as to why this objection was not made before the opposition division, and none was proposed by the appellant.

2.1.8 The board therefore decides in accordance with Article 12(4) and (6) RPBA not to admit this objection into the appeal proceedings.

2.2 The appellant's objection that many compounds claimed likely cannot be prepared - Substance

Even if the submission that many compounds claimed likely cannot be prepared had been admitted into the proceedings, the board agrees with the respondent that it would not lead to a lack of sufficient disclosure in the claimed subject-matter. Specifically, the appellant's submission that many compounds claimed likely could not be prepared amounts to an unsubstantiated allegation unsupported by any facts, and must fail for this reason alone.

2.3 Consequently, the invention defined in claim 1 of the main request meets the requirements of Article 83 EPC.

3. Novelty - Article 54 EPC

3.1 With the grounds of appeal the appellant in relation to novelty stated that whilst it "maintains its submissions made during opposition proceedings regarding novelty of the claims", it also "does not seek to have the finding of the opposition division on the matter of novelty reviewed on appeal" (grounds of appeal, point 5.3.1). It also stated that it reserved the right to raise objections under novelty in the case of new requests submitted by the respondent in the course of the appeal proceedings.

3.2 Although these statements are to a certain extent contradictory, it is clear that at least in relation to the main request found allowable by the opposition division, i.e. the main request in appeal proceedings, novelty objections submitted in opposition proceedings are not maintained in appeal proceedings.

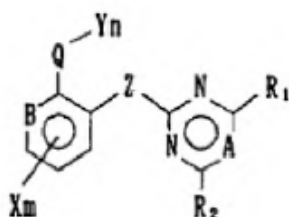
Consequently, novelty does not need to be addressed in the present proceedings.

4. Inventive step - Article 56 EPC

4.1 Closest prior art

4.1.1 It was undisputed that D7 (and English language machine translation D7a) represented the closest prior art. There was no dispute as to whether the translation D7a accurately represented the content of D7 insofar as the relevant sections thereof were concerned.

4.1.2 Similarly to the patent, D7 discloses compounds as herbicidal agents (D7a, paragraph [0004]). These compounds are defined in D7 (claim 1) by the following general formula:



wherein *inter alia*

A represents nitrogen or R³-substituted carbon;

B represents nitrogen or carbon which may be substituted by X;

Z represents oxygen, optionally oxidized sulfur, nitrogen or carbon;

Q represents a 5- or 6-membered heterocycle having one to four nitrogen, oxygen or sulfur atoms, and is bonded to the benzene or pyridine ring via its carbon atom;

R₁ and R₂ represent each hydrogen, alkyl, alkoxy, haloalkoxy, haloalkyl, alkylamino, dialkylamino, alkylthio, halogen or cyano.

4.2 Distinguishing features

4.2.1 A specific compound or groups of specific compounds in D7 structurally closest to the presently claimed compounds were not identified by the appellant.

4.2.2 Tables 5, 6 and 7 of D7 (pages 56-58) display general structures bearing an isoxazole moiety corresponding to the Q-18, Q-16 and Q-17 groups of present claim 1, respectively. Various compounds falling within the scope of said general structures are specified in said tables.

4.2.3 As stated by the respondent, the compounds defined by formula 1 of present claim 1 differ from the compounds depicted in tables 5, 6 and 7 of D7 in that on the pyrimidinyl ring they require solely hydrogen as the substituent at the 4 and 6-position, and require mandatory substitution with halogen or C₁-C₄ alkyl at the 5-position (R² in formula 1 of claim 1). More specifically, all of the compounds depicted in tables 5, 6 and 7 of D7 as addressed above display non-hydrogen substitution at the 4- and 6-position of the pyrimidinyl ring in present claim 1 (R₁ and R₂ in tables 5, 6 and 7 of D7), and only hydrogen substitution at the 5-position (D7, tables 5, 6 and 7: A=CR₃; R₃=H) of the pyrimidinyl ring.

4.3 Objective technical problem - general

4.3.1 As stated by the respondent and acknowledged by the appellant, the patent comprises data demonstrating that compounds falling within the scope of claim 1 possess herbicidal activity. That the herbicidal activity is improved compared to structurally close compounds of D7 was demonstrated in the post-filed tests of D9 and D10.

4.3.2 The appellant argued that the data in the patent was not sufficient to render the alleged herbicidal effect credible across the scope of the claim. Furthermore, the data in D9 and D10 could not be taken into account in view of Enlarged Board of Appeal decision G 2/21. Even if taken into account, the data in D9 and D10 for two compounds was not sufficient to extrapolate the effect across the scope of the claim. Hence, the objective technical problem underlying contested claim 1 was merely the provision of further alternative chemical compounds.

4.4 Objective technical problem - the data in the application as filed

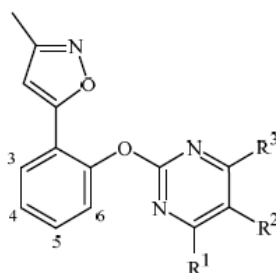
4.4.1 In relation to the data in the application as filed (reproduced identically in the patent), the appellant referred to decision T 939/92 and argued that it must be credible that substantially all claimed compounds possess herbicidal activity. Claim 1 covered a vast number of compounds, estimated as over 1.25×10^{12} . Biological data was provided in the application as filed only for 88 compounds falling within the scope of claim 1 of the main request. This was not a sufficient number to allow generalisation to the vast number of claimed compounds. The number of tested compounds was a small fraction of the number of claimed compounds, the tested compounds failed to show sufficient structural variation, and even some of the tested compounds displayed little or no effect. Hence, in line with T 939/92, it was not credible that all claimed compounds possessed the alleged herbicidal activity, with the consequence that no technical effect could be acknowledged on the basis of the data in the application as filed.

- 4.4.2 The board disagrees. As stated by the respondent, the application as filed comprises data demonstrating that a range of compounds falling within the claimed scope, in particular possessing the specific substitution pattern differentiating the claimed compounds from the structurally close compounds of D7 as set out above (4,6-di-hydrogen and 5-position substitution on the pyrimidinyl ring), possess herbicidal activity against various plant species (e.g. tables B to F).
- 4.4.3 The board also agrees with the respondent that the claimed scope, while theoretically encompassing a large number of compounds as calculated by the appellant, rather comprises a non-variable central core, for which variation is permitted around the periphery thereof. The examples of the application as filed, in particular in the absence of any counter-evidence, adequately demonstrate that herbicidal activity is maintained with variation in the substitution pattern around the periphery. Hence, it is credible on the basis of the application as filed that the claimed compounds possess the alleged herbicidal activity.
- 4.4.4 In T 939/92 the board concluded that it was not credible on the basis of the tested compounds that substantially all claimed compounds possessed the alleged herbicidal activity. However, this conclusion was based on the grounds that the claim defined by a Markush formula included a particular variable which could be "optionally substituted", i.e. substituted by absolutely everything. This situation does not arise in present claim 1, nor was such a situation argued by the appellant. Hence, the conclusion in T 939/92 is not relevant to the present case.

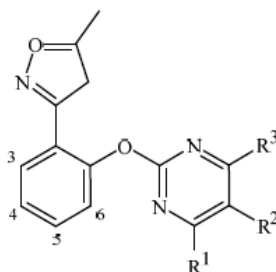
4.5 Objective technical problem - the data in D9 and D10

4.5.1 Post-published experimental reports D9 and D10 were submitted by the respondent in opposition proceedings to demonstrate an improved herbicidal activity over representative compounds of D7. Specifically, in D9 the herbicidal activity against specific plant species of compounds 58 and 60 of the patent (table 1, pages 77-78) were compared with compounds 5-14 and 6-19 of D7 (tables 5 and 6, pages 56 and 57). In D10, the same compounds were tested and compared for herbicidal activity against specific waterhemp plant species.

4.5.2 The structural differences of the tested compounds were set out in D9, as reproduced below:



	R ¹	R ²	R ³
Opposed Patent - Compound 58	H	Cl	H
D7 - Compound 5-14 (see page 56)	OMe	H	OMe



	R ¹	R ²	R ³
Opposed patent - Compound 60/153	H	Cl	H
D7 - Compound 6-19 (see page 57)	OMe	H	OMe

- 4.5.3 It was not disputed by the appellant that the data in D9 and D10 demonstrated that compounds 58 and 60 of the patent displayed improved herbicidal activity compared to the tested compounds of D7.
- 4.5.4 The appellant argued that a comparison with any prior art herbicidal compound had not been provided in the application as filed, such that the information in the application did not "pass the plausibility threshold". Consequently, in view of Enlarged Board of Appeal decision G 2/21, the technical effect demonstrated in D9 and D10 could not be taken into account in the assessment of inventive step of the claimed subject-matter.
- 4.5.5 This question is related to but separate from the question, raised by the appellant, of whether the decision of the opposition division not to suspend proceedings pending the decision of the Enlarged Board G 2/21 represented a substantial procedural violation justifying reimbursement of the appeal fee, which will be addressed separately below (see point 5).
- 4.5.6 According to G 2/21 (Order, point 2):
- "A patent applicant or proprietor may rely upon a technical effect for inventive step if the skilled person, having the common general knowledge in mind, and based on the application as originally filed, would derive said effect as being encompassed by the technical teaching and embodied by the same originally disclosed invention."*
- 4.5.7 The technical effect relied on in the present case is improved herbicidal activity over the compounds of D7.

As set out above, the application as filed comprises extensive data demonstrating the herbicidal activity of compounds falling within the claimed scope against various plant species.

- 4.5.8 Consequently, the technical effect upon which the respondent relies in the present case is explicitly mentioned in and rendered credible by the application as filed. Hence, the requirement in G 2/21 that the skilled person would derive the technical effect as being "encompassed by the technical teaching" and "embodied by the same originally disclosed invention" is met.
- 4.5.9 Furthermore, as stated by the respondent, referral T 116/18 and decision G 2/21 appear irrelevant to the present case, since the question to be answered in those cases was whether post-published data in relation to a particular technical effect could be relied on for inventive step when evidence for said effect relied exclusively on said post-published data (see question 1 posed by the referring board, G 2/21, page 2). This does not correspond to the present situation.
- 4.5.10 Hence, on the basis of T 116/18 and G 2/21, D9 and D10 can be relied on in the assessment of inventive step for the claimed subject-matter.
- 4.5.11 The appellant also argued that the data for only two compounds in D9 and D10 was not sufficient to extrapolate an improved effect over the entire breath of claim 1. The appellant referred in this regard to compounds of table B of the patent which, despite also falling within the scope of claim 1, only showed a fraction of the herbicidal activity of compound 58 of

the patent for which comparative data vis à vis D7 was provided in D9 and D10.

- 4.5.12 The board disagrees. As stated by the respondent, although the test data in D9 and D10 only concerns a comparison of two specific compounds of the patent, those compounds were compared with specific compounds of D7 which objectively most resembled them in terms of structure.
- 4.5.13 More specifically, as stated by the respondent, the comparison of compound 5-14 of D7 with compound 58 of the patent (discussed above) is relevant since the compounds differ only in the 5-substituted 4,6-di-H-pyrimidinyl core. The same applies to the comparison of compound 6-19 of D7 to compound 60 of the patent.
- 4.5.14 Furthermore, the appellant's comparison of the compounds of table B of the patent with compound 58 of the patent is not relevant to assessing inventive step over D7. In particular, said compounds of table B of the patent introduce further differences over and above the distinguishing features of claim 1 compared to compound 5-14 of D7. Since any technical effect, or indeed lack thereof, must be shown to have its origin in the distinguishing features of the invention over the closest prior art, a comparison of the activity of these compounds with compound 5-14 is irrelevant.
- 4.5.15 Consequently, the data in D9 and D10 and in the application as filed demonstrate that the technical effect of improved herbicidal activity can be attributed to the distinguishing features over the structurally closest compounds disclosed in D7. While this does not constitute absolute proof that all claimed compounds differing from the equivalent

compound of D7 only in the distinguishing features would demonstrate the same improvement, this conclusion is rendered credible by the test data. Therefore, in the absence of any evidence to the contrary, it is accepted that the effect of improved herbicidal activity is achieved over substantially the whole of the claimed scope.

4.5.16 Consequently, the objective technical problem underlying claim 1 is as formulated by the respondent, namely the provision of compounds having improved herbicidal activity against a variety of weeds.

4.6 Obviousness

4.6.1 As set out above, the appellant's submissions were based on the argument that the technical effect of improved herbicidal activity would not be achieved across the claimed scope. The board notes that the appellant did not submit any arguments according to which inventive step would be lacking if the objective technical problem were to be formulated as set out above.

4.6.2 Nevertheless, as set out by the respondent, D7 does not suggest hydrogen as the preferred substituent in the 4- and 6-positions of the pyrimidinyl ring, let alone for both substituents being hydrogen, in combination with the 5-position of said ring being substituted with a halogen or a C₁-C₄ alkyl group to the exclusion of hydrogen, as a means for solving the above objective technical problem. Furthermore, as set out by the respondent, none of the compounds of D7 for which herbicidal activity was tested (table 32) comprised a heterocyclic moiety Q corresponding to one of the

moieties Q-16, Q-17 or Q-18 according to present claim 1, implying that these groups were not preferred in D7.

Consequently, the skilled person faced with the above-mentioned objective technical problem would not have arrived at the subject-matter of claim 1.

4.6.3 Hence, in agreement with the respondent and the opposition division in the contested decision, the board concludes that the subject-matter of claim 1 involves an inventive step pursuant to Article 56 EPC.

5. Reimbursement of the appeal fee - Rule 103(1) (a) EPC

5.1 The appellant requested reimbursement of the appeal fee pursuant to Rule 103(1) (a) EPC in view of an alleged substantial procedural violation by the opposition division. Specifically, with the letter dated 25 August 2021 during proceedings before the opposition division, the appellant requested that the scheduled oral proceedings be stayed until the decision in Enlarged Board of Appeal case G 2/21 concerning appeal case T 116/18 had been issued. The opposition division did not grant the appellant's request (see point 14 of the contested decision). According to the appellant, the refusal of this request and the inadequate reasoning provided by the opposition division deprived the appellant of its right to be heard pursuant to Article 113(1) EPC. This represented a substantial procedural violation justifying reimbursement of the appeal fee.

5.2 The board disagrees, at least for the following reason. According to Rule 103(1) (a) EPC, the appeal fee shall be reimbursed in full where the board of appeal deems an appeal to be allowable, if such reimbursement is

equitable by reason of a substantial procedural violation.

5.3 Since the board decides (see below) to dismiss the appellant's appeal, the appeal is not allowable. Hence, the first condition under which the appeal fee may be reimbursed pursuant to Rule 103(1)(a) EPC above is not met. There is therefore no legal basis for the reimbursement of the appeal fee.

5.4 Consequently, the appellant's request for reimbursement of the appeal fee is refused.

5.5 In view of the foregoing, the respondent's main request is allowable, and the appeal is to be dismissed.

Order

For these reasons it is decided that:

1. The appeal is dismissed.

The Registrar:

The Chairman:



U. Bultmann

M. O. Müller

Decision electronically authenticated