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**Datasheet for the decision
of 20 February 2024**

Case Number: T 1318/21 - 3.3.02

Application Number: 13158411.2

Publication Number: 2774481

IPC: A01N35/04, A01P1/00, A01N31/02,
A01N31/14, A61Q15/00,
A61Q19/00, A61K8/33, A61K8/35,
A61K8/34, C11D3/48, A23L3/3463,
A61Q17/00, A23L33/10

Language of the proceedings: EN

Title of invention:
Antimicrobial compositions

Patent Proprietor:
Symrise AG

Opponent:
Schülke & Mayr GmbH

Headword:
SYMRISE / ANTIMICROBIAL MIXTURE

Relevant legal provisions:
EPC Art. 56
RPBA 2020 Art. 12(2), 12(4), 12(6), 13(1), 13(2)

Keyword:

Inventive step - (no)

Evidence not admitted by opposition division - decision overturned (no) Evidence filed with grounds of appeal - admitted (no)

Auxiliary requests filed after Article 15(1) RPBA communication - exceptional circumstances (no) - admitted (no)

Decisions cited:

G 0007/93, T 0596/99, T 0012/07, T 1968/08, T 1045/12,
T 0222/16, T 1597/16, T 0879/18, T 0995/18

Catchword:



Beschwerdekammern
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Case Number: T 1318/21 - 3.3.02

D E C I S I O N
of Technical Board of Appeal 3.3.02
of 20 February 2024

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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 31 May 2021
revoking European patent No. 2774481 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman M. O. Müller
Members: M. Maremonti
R. Romandini

Summary of Facts and Submissions

- I. The appeal lodged by the patent proprietor ("appellant") lies from the decision of the opposition division to revoke European patent No. 2 774 481 ("the patent").
- II. An opposition was filed invoking, *inter alia*, the ground for opposition under Article 100(a) EPC in combination with Article 56 EPC. The following documents were referred to, *inter alia*, during the opposition proceedings:
- D1: Schülke and Mayr GmbH, "*Determination of potential synergistic activity of 4-hydroxyacetophenone in combination with different antimicrobials*", Experimental report dated 13 March 2019, 1-7
- D3: RU 2 196 596 C2
- D3a: English translation of D3
- D6: WO 97/30692 A
- D7: Excerpt from Fellenberg, Petersen, Siegert and Urmetzer, "*Konservierung kosmetischer Mittel*", first edn., August 2012, 127, 138-40 and correction to page 140
- D14: Experimental report dated 14 June 2019
- D18: Experimental report dated 27 February 2020
- D18a: Corrected version of D18
- D19: Experimental report dated 15 February 2021
- D20: Declaration by Prof. Thines dated 29 June 2020

III. By letter dated 28 February 2020, the appellant filed, *inter alia*, a set of claims according to auxiliary request 1. During the oral proceedings before the opposition division, the appellant filed additional sets of claims according to auxiliary requests 2 and 3.

IV. Claim 1 of auxiliary request 1 is identical to claim 1 as granted and reads as follows:

"1. An antimicrobial mixture comprising

(a) 4-Hydroxyacetophenone

and

(b) at least one second antimicrobial agent selected from the group consisting of 1,3-propanediol, methyl propanediol, 1,2-pentanediol, 1,2-hexanediol, 1,2-octanediol, ethylhexylglycerin, hexoxy-propan-1,2-diol, heptoxy-propan-1,2-diol, octoxy-propan-1,2-diol, 3-benzyloxy-propan-1,2-diol, 3-phenyl-ethyloxy-propan-1,2-diol, 3-phenylpropyloxy-propan-1,2-diol, 3-methylbenzyloxy-propan-1,2-diol, 3-phenyl propanol, 2-phenoxyethanol".

V. The opposition division found, *inter alia*, as follows.

- Document D18 was admitted into the proceedings.
- Documents D18a, D19 and D20 were not admitted.
- The subject-matter of claim 1 of auxiliary request 1 did not involve an inventive step in view of D3/D3a taken as the closest prior art.
- Auxiliary requests 2 and 3 were not admitted.

VI. The appellant contested the opposition division's reasoning and argued, *inter alia*, that documents D18a, D19 and D20 should have been admitted and that the claimed subject-matter involved an inventive step. With

its statement of grounds of appeal, the appellant also filed new sets of claims according to auxiliary requests 1 to 5. The appellant corroborated its arguments by filing the following new items of evidence (labelled respectively as D7a, D26a to D26h, D27, A1, A1a, D11a, A2, A3, A4, D28, A5, A6, A6a, A7 and A8 by the appellant; new numeration introduced by the board):

A025: Fellenberg *et al.*, "*Konservierung kosmetischer Mittel*", first edn. 2012, 7-273

A026a: RÖMPP-Redaktion, "*Hydroxyacetophenone*",
retrieved at URL: <https://roempp.thieme.de/lexicon/RD-08-02314?searchterm=4+hydroxyacetophenon&context=search>, printed on 24 September 2021

A026b: RÖMPP-Redaktion, "*Alkohol*", retrieved at URL: <https://roempp.thieme.de/lexicon/RD-01-01480?searchterm=alkohol&context=search>, printed on 24 September 2021

A026c: RÖMPP-Redaktion, "*Hexan*", retrieved at URL: <https://roempp.thieme.de/lexicon/RD-08-01199?searchterm=hexan&context=search>, printed on 24 September 2021

A026d: "*4-Hydroxyacetophenone*", retrieved at <https://comptox.epa.gov/dashboard/dsstoxdb/results?search=DTXSID0029133#properties> on 6 October 2021

A026e: RÖMPP-Redaktion, "*Chlormethane*", retrieved at URL: <https://roempp.thieme.de/lexicon/RD-03-01491?context=keyword&contextId=RD-20-02764#>, printed on 24 September 2021

A026f: RÖMPP-Redaktion, "*Diethylether*", retrieved at URL: <https://roempp.thieme.de/lexicon/>

RD-04-01420?context=keyword&contextId
=RD-05-01891#, printed on 24 September 2021

A026g: PubChem, "*Ether*"

A026h: RÖMPP-Redaktion, "*Ethanol*", retrieved at URL:
[https://roempp.thieme.de/lexicon/RD-05-01878?
context=keyword&contextId =RD-01-01480#](https://roempp.thieme.de/lexicon/RD-05-01878?context=keyword&contextId=RD-01-01480#), printed
on 24 September 2021

A027: Kadota *et al.*, "*Constituents of the Roots of
Cynanchum bungei Decne. Isolation and Structures
of Four New Glucosides, Bungeiside-A, -B, -C, and
-D*", Chemical and Pharmaceutical Bulletin,
40(12), 1992, 3133-7

A028: Symrise AG, Summary Report, "*para-
Hydroxyacetophenone extraction from European
spruce reproducing RU2196596*", 30 September 2021

A029: Symrise AG, "*Vergleichsstudie Fichtennadelextrakt
mit SymSave® H im Mikrotiterplatten Hemmtest*",
7 October 2021

A030: Osswald *et al.*, "*p-Hydroxyacetophenone a
fungitoxic compound in spruce needles*", Journal
of Plant Diseases and Protection, 94 (6), 1987,
572-7

A031: Nordzieke, "*Bestimmung eines möglichen Einflusses
unterschiedlicher Inokulumsmengen auf die
Bestimmung der Minimalen Hemmkonzentrationen
(MHK)*", Symrise AG, 6 October 2021

A032: Thines, "*Gutachten zum Vergleich zweier Methoden
zur Bestimmung der minimalen Hemmkonzentration
von Testsubstanzen*", 8 October 2021

A033: Symrise AG, "*Übersicht der ermittelten
Synergieindizes in wässriger Lösung und
Emulsion*"

A034: Tschierske *et al.*, "*Wirksamkeitsverlust von antimikrobiellen Wirkstoffen in Emulsionen*", SOFW-Journal, 138, 4-2012, 2-6

A035: Qacs Ltd., Summary Report, 1-20

A036: Eurofins, Experimental Report, 28 September 2021

A037: Eurofins, Experimental Report, 30 September 2021

A038: Symrise AG, Experimental Report, 13 September 2021

A039: Symrise AG, Experimental Report on Water Solubility of 4-Hydroxyacetophenone, 8 October 2021

VII. The opponent ("respondent") rebutted the appellant's arguments and argued, *inter alia*, that the claimed subject-matter lacked an inventive step. It also contested the admittance into the proceedings of all documents filed by the appellant in appeal as well as auxiliary requests 1 to 5.

VIII. The parties were summoned to oral proceedings as per their requests. In preparation for the oral proceedings, the board issued a communication under Article 15(1) RPBA. In this communication, the board expressed, *inter alia*, the preliminary opinion that the subject-matter of claim 1 of the main request (auxiliary request 1 underlying the appealed decision) did not involve an inventive step starting from D3/D3a as the closest prior art.

IX. By letter dated 22 November 2023, the appellant filed the following new item of evidence (enumeration by the board):

A052: Declaration of Dr Löbhard dated 17 November 2023

- X. By letter dated 1 February 2024, the appellant filed two additional sets of claims according to auxiliary requests 6 and 7.
- XI. By a subsequent letter, the respondent contested, *inter alia*, the admittance of A052 and auxiliary requests 6 and 7.
- XII. Oral proceedings before the board were held on 20 February 2024 by videoconference in the presence of both parties. During the oral proceedings, the appellant submitted, *inter alia*, that the assessment of the *prima facie* relevance of D18a and D19 by the opposition division was in contradiction with its assessment of inventive step, notably as regards the cell count disclosed in D3/D3a. The respondent objected to the admittance of this submission by the appellant. During the oral proceedings, the appellant further changed the ranking of its auxiliary requests (see below).
- XIII. Final requests relevant to the decision
- The appellant requested that the appealed decision be set aside and that the patent be maintained in amended form on the basis of the claims of the main request filed with the statement of grounds of appeal. This request is identical to auxiliary request 1 underlying the appealed decision. Alternatively, the appellant requested that the patent be maintained in amended form on the basis of the claims of one of auxiliary requests 1 to 7, where auxiliary request 1 was filed as auxiliary request 6 by letter dated 1 February 2024, auxiliary requests 2 to 6 were filed as auxiliary requests 1 to 5 with the statement of grounds of appeal, and auxiliary request 7 was filed by letter dated 1 February 2024. The appellant further requested that documents D18a, D19 and D20 be admitted into the

proceedings, meaning that the decision of the opposition division not to admit these documents be overturned. The appellant also requested that documents A025, A026a to A026h and A027 to A039 as filed with the statement of grounds of appeal as well as document A052, filed by letter dated 22 November 2023, be admitted into the proceedings.

The respondent requested that the appeal be dismissed and that:

- auxiliary requests 1 to 7 not be admitted into the proceedings
- the decision of the opposition division not to admit documents D18a, D19 and D20 be confirmed
- documents A025, A026a to A026h, A027 to A039 and A052 not be admitted into the proceedings
- the appellant's submissions on pages 38 to 42 of the statement of grounds of appeal alleging that the experimental tests in D1 were not conducted according to the DIN standard disclosed in documents D15 to D17, that the compounds used in D1 were not pure and that the high inaccuracy of the minimum inhibitory concentration ("MIC") values in D1 was confirmed by an independent laboratory, not be admitted into the proceedings
- the appellant's submission made during oral proceedings before the board that the assessment of the *prima facie* relevance of D18a and D19 by the opposition division was in contradiction with its assessment of inventive step, notably as regards the cell count disclosed in D3/D3a, not be admitted into the proceedings

XIV. The parties' submissions relevant for the decision are set out below in the reasons for the decision.

Reasons for the Decision

Documents D18a, D19 and D20 - the decision of the opposition division - Article 12(6) RPBA

1. Documents D18a, D19 and D20 were filed by the appellant on 19 February 2021, i.e. two months in advance of the oral proceedings before the opposition division. The opposition division considered these documents to have been filed late. The documents were not admitted into the proceedings (appealed decision, point 3.4, pages 14 to 16).
2. The appellant requested that this decision be overturned for the following reasons.
 - 2.1 The appellant argued that D18a was a report identical to D18, filed on 28 February 2020, with the exception that a mistake (the MIC of 4-HAP against *Aspergillus brasiliensis*) had been corrected. Both D18 and D18a had the same date. It was thus not understood why the opposition division admitted D18 but not D18a.
 - 2.2 As regards D19 and D20, the appellant submitted that these items of evidence had been announced by the letter dated 28 February 2020. Their filing had been delayed due to the COVID-19 pandemic that considerably restricted the laboratory operations of the appellant and caused an internal restructuring of the company. Additionally, a hacker attack against the appellant took place between December 2020 and January 2021. The IT systems had to be immediately taken offline. This meant that employees had access neither to the IT systems nor the raw data. Evaluating the experimental data in D19 was thus impossible during that period. All this caused the delay in the filing of these documents.

However, especially D19 was highly relevant and should have been admitted.

2.3 The appellant further submitted that the opposition division decided not to admit D18a and D19 because it considered these documents not to be *prima facie* relevant. This assessment was based on the assumption that the data submitted by the appellant were unreliable because they were not generated strictly according to the DIN standard disclosed in D15 to D17. From a technical point of view, however, this assumption was completely unfounded. Furthermore, the opposition division did not provide any plausible reason why the appellant's results should be unreliable from a technical point of view. Finally, the opposition division's view on the relevance of D18a and D19 was in sharp contradiction with its own judgement on the relevance of D18. According to the opposition division, D18 was *prima facie* relevant despite the fact that the test results in D18 were based on the same - allegedly unreliable - experimental procedure as the test results in D18a and D19, and despite the opposition division being aware of this fact (see section 3.4.c., second paragraph of the appealed decision). Consequently, the opposition division should have also regarded D18a and D19 as being *prima facie* relevant and should have admitted them.

2.4 At the oral proceedings, the appellant also argued that the opposition division's reasoning for not admitting D18a and D19 involved complex considerations on the cell counts allegedly used in the experiments reported in these documents and their comparison with the DIN standard disclosed in D15 to D17. These considerations showed that the examination of the content of D18a and D19 by the opposition division had been very detailed, going far beyond a *prima facie* examination. Thus, the

opposition division had not used the available criterion in the right way. Furthermore, such a thorough examination of D18a and D19 was equivalent to implicitly admitting these documents.

- 2.5 The appellant also pointed to allegedly contradicting statements in the appealed decision as regards the finding by the opposition division on the test results in the patent versus the results in D18a and D19.
- 2.6 As regards expert's opinion D20, the appellant argued that the opposition division wrongly objected that it was unclear from this document which experimental methods were referred to. Opinion D20 should have been considered in the context of the previous letter of the appellant dated 28 February 2020. In that letter, the appellant had announced an expert's opinion on the comparison between the experiments reported in D1 and those of D14. Consequently, it was clear that D20 was about assessing whether the methodology used by the respondent and the methodology used by the appellant were comparable.
- 2.7 The appellant concluded that the decision of the opposition division on the relevance of D18a to D20 was based on a manifestly erroneous or contradictory assessment of facts. The opposition division had not exercised its discretion in a reasonable way. Therefore, this decision had to be reversed.
3. The board decided not to overturn the opposition division's decision not to admit D18a, D19 and D20 for the following reasons.
 - 3.1 Under the case law of the boards of appeal developed in view of decision G 7/93 (OJ EPO 1994, 775, Reasons 2.6), if a first-instance department is required under the EPC to exercise its discretion in certain circumstances, the department should have a

certain degree of freedom when exercising that discretion, without interference from the boards. Accordingly, it is not within the remit of the board to re-examine the case and decide whether it would have exercised its discretion in the same way. A board should only overrule the way in which a department of first instance exercised its discretion on the admittance of, *inter alia*, items of evidence if the board concludes that the first-instance department did so according to the wrong principles, without taking into account the right principles or in an unreasonable way (see also T 879/18 and T 222/16).

3.2 This case law has been codified in Article 12(6) RPBA. In accordance with this provision, the board shall not admit, *inter alia*, items of evidence not admitted in the proceedings leading to the decision under appeal, **"unless the decision not to admit them suffered from an error in the use of discretion or unless the circumstances of the appeal case justify their admittance"** (emphasis added by the board).

3.3 Experimental reports D18a and D19 were filed to rebut the respondent's objections based on experimental report D1, which had been filed with the notice of opposition. Especially for D19, this is confirmed by the appellant itself, *inter alia*, in point 4.1.4 on page 20 of its letter dated 21 July 2022.

The sequence of events starting with the filing of the notice of opposition is thus relevant:

- notice of opposition: 13 March 2019
- reply to notice of opposition: 25 July 2019
- announcement of D18a, D19 and D20: 28 February 2020
- filing of D18a, D19 and D20: 19 February 2021

- oral proceedings before the opposition division: 19 April 2021

Hence, D18a, D19 and the expert's opinion D20 were filed almost two years after the notice of opposition and well after the appellant's reply to the notice. Therefore, the opposition division correctly considered these items of evidence to be late filed. The fact that there may have been some delay in the filing of those documents in view of, *inter alia*, the COVID-19 pandemic, does not alter that conclusion. Indeed, the appellant had approximately one year between the filing of the notice of opposition and the start of the sanitary measures due to the COVID-19 pandemic to produce this evidence. Instead of doing so, the appellant waited for almost the entire year and, at the end of the year, merely announced the filing of D18a, D19 and D20 in its letter dated 28 February 2020 (pages 7 and 8). The appellant filed experimental data in the form of document D14 in due time, i.e. with its reply to the notice of opposition. The appellant should therefore have also filed D18a, D19 and D20 at that time.

- 3.4 Moreover, as pointed out by the respondent and not disputed by the appellant, the COVID-19 pandemic, far from being an obstacle, actually benefited the appellant by allowing much more time for the filing of D18a, D19 and D20. Indeed, the oral proceedings before the opposition division were initially scheduled for 28 April 2020, i.e. two months after the announcement of D18a, D19 and D20 by the appellant (see above). In view of the COVID-19 pandemic, the oral proceedings were postponed twice, and the date for making written submission under Rule 116(1) EPC was finally set at 19 February 2021, i.e. the date by which D18a, D19 and D20 had been filed.

- 3.5 Under the Guidelines for Examination, E-VI.2 (the edition of November 2018, i.e. the version applicable at the time the decision under appeal was taken; see also the edition of March 2023), *prima facie* relevance is the main criterion an opposition division should apply when deciding on the admittance of late-filed evidence.
- 3.6 According to the appealed decision (pages 15 and 16), after having examined the content of D18a, D19 and D20, the opposition division concluded that these documents were not *prima facie* relevant and decided not to admit them. Contrary to the appellant's view, the board fails to recognise any complex considerations made by the opposition division when assessing the relevance of D18a and D19. The cell counts as disclosed in the DIN standard (D15 to D17) are mentioned in the passage bridging pages 15 and 16 of the appealed decision as well as the fact that the appellant admittedly used higher microorganism concentrations in D18a and D19. As regards D20, also only its *prima facie* relevance was assessed (see page 16 of the appealed decision, last paragraph before point 3.5). Therefore, also no implicit admittance of D18a and D19 can be recognised. On the contrary, the opposition division (appealed decision, page 15, fourth full paragraph) explicitly stated that D18a, D19 and D20 were not admitted into the proceedings.
- 3.7 Even assuming, *arguendo*, that the opposition division had carried out complex considerations, whatever this might mean, in assessing the relevance of D18a and D19, the board fails to see why a more detailed examination of the content of a late-filed document aiming to assess its relevance should automatically lead to the admittance of the document into the proceedings.

- 3.8 For these reasons, the opposition division applied the right criterion when deciding on admittance of D18a, D19 and D20. The opposition division *prima facie* recognised that the results reported in D18a and D19 suffered from a systematic error and that D20, while referring to two methods, did not indicate what the two studied methods consisted of. Therefore, the board concludes that the opposition division applied the available criterion in a reasonable way.
- 3.9 The mere fact that the opposition division had recognised that also the results reported in D18, which was also late filed, suffered from the same error as those in D18a and D19 and nevertheless admitted D18 could at most lead to the conclusion that D18 should also not have been admitted. However, this is not a reason to overturn the decision on D18a and D19.
- 3.10 Therefore, the board decided that documents D18a, D19 and D20 remain excluded from the appeal proceedings.

Appellant's submission made during the oral proceedings before the board that the assessment of the *prima facie* relevance of D18a and D19 by the opposition division was in contradiction with its assessment of inventive step, notably as regards the cell count disclosed in D3/D3a - admittance into the proceedings - Article 13(2) RPBA

4. At the oral proceedings, the appellant submitted for the first time that the assessment of the *prima facie* relevance of D18a and D19 by the opposition division was in contradiction with its assessment of inventive step. In the latter, the opposition division had not considered the fact that the cell count disclosed in D3/D3a, stated to be the closest prior art, was higher than the value recommended in the DIN standard. While the results in D18a and D19 were regarded as not being reliable in view of the cell counts used being higher than indicated in the DIN standard, leading to the conclusion that D18a and D19 were not *prima facie* relevant, D3/D3a was considered suitable as the closest prior art. This contradiction showed that the opposition division had used its discretion in not admitting D18a and D19 in an unreasonable way.
 - 4.1 The respondent requested that this submission not be admitted into the proceedings.
 - 4.2 The board did not admit the above appellant's submission for the following reasons.
 - 4.2.1 Under Article 13(1) RPBA, any amendment to the appellant's case after it has filed its grounds of appeal is subject to the appellant's justification for its amendment and may be admitted only at the discretion of the board. The board exercises its discretion in view of, *inter alia*, procedural economy. Moreover, under Article 13(2) RPBA, any amendment to a party's appeal case made after notification of a

communication under Article 15(1) RPBA shall, in principle, not be taken into account unless there are exceptional circumstances justified with cogent reasons by the party concerned.

- 4.2.2 The appellant argued that the above submission made at the oral proceedings did not change its appeal case. It merely constituted a new argument to reinforce the arguments already on file.
- 4.2.3 The board disagrees. The above-mentioned submission by the appellant involves several new factual considerations, such as where and in what context cell counts are disclosed in D3/D3a, the relationship of this disclosure to the indications on cell counts in the DIN standard (documents D15 to D17) and a comparison of the cell counts possibly disclosed in D3/D3a with those used in D18a and D19.
- 4.2.4 For these reasons, the board concluded that the above submission made by the appellant at the oral proceedings does constitute an amendment to its appeal case subject to the above provisions of Article 13(1) and (2) RPBA.
- 4.2.5 The appellant has not explained why this submission was not made before the opposition division or with the statement of grounds of appeal. If this submission had been admitted at the oral proceedings before the board, the above-mentioned new factual assessments would have had to be carried out then. This would have created a fresh case on the admittance of D18a and D19 by the opposition division to be addressed at the latest possible stage of the appeal proceedings. This would have been detrimental to procedural economy and contrary to the primary object of the appeal to review the appealed decision in a judicial manner (Article 12(2) RPBA). Appeal proceedings should not be used by

the parties as a continuation of the proceedings before the opposition division.

4.2.6 The board can also not recognise any exceptional circumstances for the late filing of the appellant's submission. The admittance of, *inter alia*, D18a and D19 was discussed at the oral proceedings before the opposition division, and a detailed reasoning is contained in the appealed decision (see above). Therefore, the above submission should have been filed with the statement of grounds of appeal at the latest.

4.3 In view of the above, pursuant to Article 13(1) and (2) RPBA, the board decided not to admit into the proceedings the appellant's submission made during the oral proceedings before the board that the assessment of the *prima facie* relevance of D18a and D19 by the opposition division was in contradiction with its assessment of inventive step, notably as regards the cell count disclosed in D3/D3a.

Documents A025, A026a to A026h, A027 to A039 and A052 - admittance into the proceedings - Article 12(4) and (6) RPBA

5. Documents A025, A026a to A026h and A027 to A039 were filed by the appellant with its statement of grounds of appeal. Document A052 was filed with the appellant's letter dated 22 November 2023.

The respondent requested that these documents not be admitted into the proceedings.

Documents A026a to A026h, A027, A028 and A029

5.1 The appellant argued that documents A026a to A026h, A027, A028 and A029 had been filed to demonstrate that, contrary to the opposition division's view, document D3/D3a was not suitable as the closest prior art.

- 5.1.1 According to the appellant, these documents showed that the extraction method disclosed in D3/D3a did not enable extracting 4-HAP from the tree foliage of coniferous species. Therefore, the antimicrobial properties reported in D3/D3a could not be ascribed to 4-HAP but to other unknown substances.
- 5.1.2 The appellant submitted that these documents could not have been filed earlier because it was only after having received the appealed decision that it had been possible to recognise the contradictions in D3/D3a. A further assessment of this document had rendered it possible to recognise that the disclosed method was not suitable for extracting 4-HAP.
- 5.1.3 Documents A026a to A026h, A027, A028 and A029 were extremely relevant since D3/D3a was the sole closest prior art mentioned in the appealed decision. These documents showed the speculative nature of the disclosure in D3/D3a, demonstrating that it was not suitable as the closest prior art. Hence, documents A026a to A026h, A027, A028 and A029 should have been admitted into the proceedings.
- 5.2 The board decided not to admit documents A026a to A026h, A027, A028 and A029 for the following reasons.
- 5.2.1 Under Article 12(2) RPBA, "*[i]n view of the **primary object of the appeal proceedings** to review the decision under appeal **in a judicial manner**, a party's appeal case shall be directed to the requests, facts, objections, arguments and evidence **on which the decision under appeal was based***" (emphasis added by the board).
- 5.2.2 Furthermore, under Article 12(4) RPBA, "*[a]ny part of a party's appeal case which does not meet the requirements in paragraph 2 is to be regarded as an amendment*" and "*[a]ny such amendment may be admitted*

only at the discretion of the Board". The board exercises its discretion in view of, *inter alia*, the complexity of the amendment and the need for procedural economy.

- 5.2.3 Since documents A026a to A026h, A027, A028 and A029 were not filed before the opposition division and thus its decision is not based on them, all the above-mentioned submissions of the appellant based on these documents together with the documents themselves represent an amendment of the appellant's case within the meaning of Article 12(4) RPBA to be admitted only at board's discretion.
- 5.2.4 The admittance of documents A026a to A026h, A027, A028 and A029 would have led to a completely fresh case on inventive step to be discussed in the appeal proceedings for the first time. It would have been necessary to address complex issues on the extraction of 4-HAP and whether, as a result, the person skilled in the art would have considered D3/D3a to be a suitable starting point on the basis of the common general knowledge available at the relevant date of the patent. This would have been contrary to the primary object of the appeal proceedings set out above and detrimental to procedural economy.
- 5.2.5 Solely for these reasons, documents A026a to A026h, A027, A028 and A029 and all the appellant's submissions based on them were not admitted into the proceedings.
- 5.2.6 Moreover, under Article 12(6) RPBA, the board shall not admit, *inter alia*, items of evidence "**which should have been submitted, or which were no longer maintained, in the proceedings leading to the decision under appeal, unless the circumstances of the appeal case justify their admittance**" (emphasis added by the board).

5.2.7 Document D3/D3a was filed by the respondent with the notice of opposition and was among the documents identified by the respondent as the closest prior art (notice of opposition, point 6.5 on page 13 ff). This choice was not contested by the appellant in its reply to the notice of opposition. On the contrary, in its reply (points 8.2 and 8.3, pages 14 and 15), the appellant maintained that D3/D3a was, among all documents indicated by the respondent, the sole disclosure which might represent the closest prior art. The appellant maintained that position up to and during the oral proceedings before the opposition division (see the minutes of the oral proceedings, page 2, last paragraph and the appealed decision, paragraph bridging pages 19 and 20).

5.2.8 Therefore, the selection by the opposition division of D3/D3a as the closest prior art in the appealed decision was in agreement with both parties. Contradictions within the disclosure of D3/D3a or its speculative nature, if any, and their consequence on the suitability of D3/D3a to represent the closest prior art could and should have been brought forward by the appellant before the opposition division.

5.2.9 Hence, documents A026a to A026h, A027, A028 and A029 and all the appellant's submissions based on them were not admitted into the proceedings, also pursuant to Article 12(6) RPBA.

Documents A025 and A030

5.3 The appellant argued that since D3/D3a was not suitable as the closest prior art, other documents which could have been selected had to be found. A025 and A030 were possible candidates. A025 especially had to be seen as the most promising starting point for assessing inventive step.

5.4 However, as set out above, all the appellant's submissions on the non-suitability of D3/D3a as the closest prior art were not admitted into the proceedings. For the same reasons, documents A025 and A030 also could and should have been filed before the opposition division. Furthermore, the admittance of documents A025 and A030 would have led to a completely fresh case on inventive step to be discussed in the appeal proceedings for the first time. This would have been contrary to the primary object of the appeal proceedings set out above and detrimental to procedural economy.

5.5 Therefore, the board did not admit documents A025 and A030 and all appellant's submissions based on them into the proceedings, pursuant to Article 12(4) and (6) RPBA.

Documents A031, A032, A034 to A039 and A052

5.6 The appellant argued that documents A031, A032 and A034 to A039 could not have been filed earlier because it was only by receiving the appealed decision that the appellant could know the reasons for which the opposition division concluded that there was a lack of inventive step.

5.6.1 According to the appellant, the opposition division considered for the first time in the appealed decision the experimental data provided by the appellant not to be reliable in view of the deviations from the DIN standard disclosed in D15 to D17. Although in the two preliminary opinions issued the opposition division had provisionally found the claimed subject-matter to lack inventive step, no details had been given.

5.6.2 Documents A031 and A032 were filed to demonstrate that deviations from the DIN standard did not affect the

obtained results in terms of synergy index ("SI") of the tested mixtures.

- 5.6.3 Moreover, experimental reports A036 and A037 carried out by an independent laboratory confirmed the previously obtained results in terms of SI also when the DIN standard was followed. Declaration A052 rebutted the respondent's criticism against A036 and A037. At the oral proceedings before the board, the appellant further submitted that it had assumed that D18a and D19 together with the previously filed D14 and D18 would have overcome the inventive-step objection in the preliminary opinions of the opposition division as well as in the respondent's letter dated 20 February 2020. A further reaction in terms of e.g. A036 and A037 had not been possible in view of the COVID-19 pandemic and the hacker attack invoked to explain the late filing of D18a and D19. The statement of grounds of appeal thus constituted the first opportunity to file A036 and A037.
- 5.6.4 The appellant further argued that the patent contained evidence of synergism of the claimed mixtures not only on the basis of MIC tests, but also on the basis of the challenge test carried out according to ISO 11930, European Pharmacopoeia 7 - 5.1.3 or United States Pharmacopoeia 35. These results were shown in examples 1 to 4 of the patent. This synergism had not been acknowledged in the appealed decision. The newly filed experimental report A035 confirmed this synergism based on the challenge test for a number of mixtures falling under claim 1 of the main request. Also, document A034 had been filed in the context of the challenge test and was part of the common general knowledge of the skilled person.

5.6.5 Moreover, the appellant submitted that experimental report D1 of the respondent did not mention the purity of 4-HAP that had been used. The purification of 4-HAP was difficult as demonstrated by the different melting points reported e.g. in A026a, A030 and A026d. Without knowing the purity, it was unclear in D1 whether the MIC values determined applied to 4-HAP or a mixture of substances, i.e. 4-HAP plus impurities. The newly filed document A038 demonstrated the high purity of the 4-HAP as used in the experiments provided by the appellant. Moreover, D1 indicated some problems in the dissolution of 4-HAP. As confirmed by the newly filed document A039, the solubility of 4-HAP in water was much lower than the value of 10 g/l considered by the respondent in D1 on the basis of document D24. A039 was highly relevant since it questioned the validity of the results reported in D1 that led to revocation of the patent. Moreover, A039 represented a reaction to the filing of D24 by the respondent only four days in advance of the oral proceedings before the opposition division.

5.6.6 The appellant thus concluded that documents A031, A032, A034 to A039 and A052 could not have been filed earlier. They were highly relevant and should have been admitted.

5.7 The board decided not to admit documents A031, A032, A034 to A039 and A052 for the following reasons.

5.7.1 As admitted by the appellant, the respondent had contested the reliability of the experimental results in D14 in view of the deviations from the DIN standard in its letter dated 28 February 2020 (page 3, last paragraph). The opposition division issued a second preliminary opinion on 12 May 2020 stating that on the basis of the experimental results provided by the parties, the claimed subject-matter lacked an inventive

step. Even if no details were given, it was evident that the opposition division provisionally accepted the objections raised by the respondent.

- 5.7.2 More importantly, the parties should be responsive to each other and not only to the EPO. Therefore, documents A031 and A032 should have been filed before the opposition division in response to the objection raised by the respondent in its letter dated 28 February 2020. The board further concurs with the respondent that experimental reports A036 and A037 should have been filed in response to D1, which, as set out above, was filed with the notice of opposition. At the latest, they should have been filed also in reaction to the respondent's objection raised on 28 February 2020. In view of the very nature of *inter partes* proceedings, a party should always envisage the possibility that the opposition division will accept the arguments of the adverse party. In fact, the appellant did file new experimental results in documents D18a and D19 on 19 February 2021 (see above). A031, A032, A036 and A037 should have been filed at the same time, but the appellant decided not to do so.
- 5.7.3 As regards documents A034 and A035, the appellant never relied on synergy results obtained by the challenge test before the opposition division, let alone the results reported in examples 1 to 4 of the patent. The admittance of A034 and A035 would thus have led to a completely fresh case on inventive step to be discussed in the appeal proceedings for the first time. This would be contrary to the primary object of the appeal proceedings set out above and detrimental to procedural economy in view of the complex issues to be addressed. Indeed, the synergy, if any, of the claimed mixtures would have had to be re-assessed on the basis of a different test than the one based on MIC values, which

had been relied on by the parties throughout the proceedings before the opposition division.

5.7.4 Documents A038 and A039 were filed to question the experimental results showed by the respondent in document D1. However, as set out above, D1 had been filed with the notice of opposition. Documents contesting the results of D1 should thus have been filed as a timely response to D1 before the opposition division. Moreover, the appellant questioned the solubility of 4-HAP in its letter dated 19 February 2021 (point 1.6 on pages 10 to 13), i.e. two months before the oral proceedings. At the latest, documents A038 and A039 should have been filed at this time. A039 cannot be seen as a reaction to D24. In fact, it is instead document D24, filed by the respondent by letter dated 15 April 2021, i.e. four days before the oral proceedings, that represented a reaction to the appellant's submissions on the solubility of 4-HAP made in the letter dated 19 February 2021 (see the respondent's letter of 15 April 2021, point 2 on page 2 and point 4 on pages 3 to 5).

5.7.5 For these reasons, the board decided not to admit documents A031, A032 and A034 to A039 and all the appellant's submissions based on them into the proceedings, pursuant to Article 12(4) and (6) RPBA.

5.7.6 Declaration A052 represented a reaction to the criticism raised by the respondent against A036 and A037. Since the latter documents were not admitted into the proceedings, A052 was also not admitted.

Document A033

5.8 The appellant argued that document A033 should have been admitted because it merely represented a summary

of all the experimental results reported by the parties.

5.9 However, document A033 includes the results reported, *inter alia*, in documents D18a, D19, A035, A036 and A037, i.e. in documents which, for the reasons set out above, were not admitted into the proceedings.

Therefore, the board decided also not to admit A033.

5.10 At the oral proceedings, the appellant additionally submitted that the filing of A025, A026a to A026h and A027 to A039 with the statement of grounds of appeal was not meant to create a fresh case. On the contrary, it reflected a fresh view on the case due to a change of the appellant's representative.

5.11 However, as set out above, the admittance of A025, A026a to A026h and A027 to A039 would have led to fresh cases on several issues to be discussed in the appeal proceedings for the first time. The change of the appellant's representative is not a valid reason for using the appeal proceedings as a second round of the proceedings before the opposition division on the basis of new items of evidence.

Appellant's submissions on pages 38 to 42 of the statement of grounds of appeal - admittance into the proceedings - Article 12(4) and (6) RPBA

6. On pages 38 to 42 of the statement of grounds of appeal, the appellant alleged that the experimental tests in D1 were not conducted according to the DIN standard disclosed in documents D15 to D17, that the compounds used in D1 were not pure and that the high inaccuracy of the MIC values in D1 was confirmed in A036 and A037 by an independent laboratory.

6.1 The respondent requested that these submissions of the appellant not be admitted into the proceedings.

6.2 At the oral proceedings, the board noted that any factual allegations contesting the results in D1 should have been put forward before the opposition division since D1 was filed with the notice of opposition. Moreover, the above appellant's submissions were based on documents A031 and A036 to A039. These observations of the board were not contested by the appellant. Since A031 and A036 to A039 were not admitted into the proceedings (see above), the above-mentioned appellant's submissions made on pages 38 to 42 of the statement of grounds of appeal were not admitted for the same reasons (Article 12(4) and (6) RPBA).

Main request (auxiliary request 1 underlying the appealed decision) - ground for opposition under Article 100(a) EPC - claim 1 - inventive step under Article 56 EPC

7. Closest prior art

7.1 During the opposition proceedings, the opposition division and both parties indicated document D3/D3a as a suitable starting point for the assessment of inventive step (appealed decision, point 3.6 on pages 17 to 20).

7.2 In appeal, the appellant questioned the suitability of D3/D3a as the closest prior art on the basis of the newly filed documents A026a to A026h, A027, A028 and A029. However, as set out above, documents A026a to A026h, A027, A028 and A029 and all the appellant's submissions based on them were not admitted into the proceedings and, thus, they remain unconsidered.

7.3 At the oral proceedings, the appellant cited page 5, lines 10 to 13 of D3/D3a. Here, an indication was given that the disclosed antimicrobial substance might be the basis for developing cosmetics and detergents. This indication was merely speculative and could not be equated to disclosure of a composition suitable for use

as a preservative in a cosmetic product as was the case for the claimed compositions. The appellant referred to paragraphs [0002] to [0004] of the patent, listing properties of such preservative compositions. Moreover, D3/D3a was silent as to any antimicrobial action of the disclosed mixture against *Aspergillus brasiliensis*. This antimicrobial action was especially targeted in the patent. Therefore, D3/D3a was not suitable as the closest prior art.

7.4 The board disagrees.

7.4.1 The mixture defined in claim 1 of the main request (point IV above), apart from generally requiring to be *antimicrobial* and to comprise components (a) and (b), is not required to display any specific properties nor to be active against specific microorganisms, let alone *Aspergillus brasiliensis*.

7.4.2 Document D3/D3a discloses (the references apply to D3a: abstract; page 1, lines 33 to 36; page 2, lines 19 to 26; page 3, lines 16 to 22; page 4, lines 14 to 38) a mixture comprising 4-HAP stated to display virucidal, bactericidal and fungicidal activity. According to D3/D3a, this mixture is especially active against cultures of *Candida albicans*, *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa*, i.e. cultures against which also the mixtures of the patent should display antimicrobial activity (see paragraph [0113] and example 5 of the patent). On page 5, lines 10 to 13, D3/D3a further discloses that the 4-HAP-containing antimicrobial mixture, due to its natural origin, low toxicity and low skin-irritating action, can be used for developing cosmetics and detergents. Therefore, D3/D3a gives the skilled person a clear indication of the suitability of the disclosed antimicrobial mixture as a preservative in the above-mentioned consumer products.

7.5 On the basis of the above disclosure, the board considers D3/D3a a suitable starting point for the assessment of inventive step.

8. Distinguishing feature

It is common ground that when starting from the above disclosure in D3/D3a, the subject-matter of claim 1 of the main request differs from this disclosure in that the mixture further comprises at least one (b) compound, i.e. *"at least one second antimicrobial agent selected from the group consisting of 1,3-propanediol, methyl propanediol, 1,2-pentanediol, 1,2-hexanediol, 1,2-octanediol, ethylhexylglycerin, hexoxy-propan-1,2-diol, heptoxy-propan-1,2-diol, octoxy-propan-1,2-diol, 3-benzyloxy-propan-1,2-diol, 3-phenyl-ethyloxy-propan-1,2-diol, 3-phenylpropyloxy-propan-1,2-diol, 3-methylbenzyloxy-propan-1,2-diol, 3-phenyl propanol, 2-phenoxyethanol"*.

9. Objective technical problem

9.1 The appellant referred to the experimental results reported in the patent as well as in D14, D18, D18a, D19, A035, A036 and A037 and argued that the claimed antimicrobial mixtures showed a synergistic activity against a number of microorganisms.

9.2 At the oral proceedings, the appellant further submitted for the first time that even if D18a, D19 and A035 to A037 had not been admitted, the results in examples 4 and 5 of the patent as well as those reported in D14 and D18 allowed concluding that at least for some of the mixtures defined in claim 1, a synergistic activity still had to be recognised. In line with decision T 914/99, claim 1 of the main request should thus be split into synergistic and non-synergistic mixtures. In particular, the binary

mixtures of 4-HAP with the following compounds had been shown to be synergistic:

- 1,2-hexanediol
- phenoxyethanol
- ethylhexylglycerin
- 1,2-pentanediol
- methyl propanediol
- 1,3-propanediol
- 1,2-octanediol
- 3-hexyloxy-propan-1,2-diol
- 3-heptoxy-propan-1,2-diol
- 3-octoxy-propan-1,2-diol
- 3-benzyloxy-propan-1,2-diol

The mere fact that the DIN standard disclosed in D15 to D17 had not been followed in D14 and D18 had no impact on the reported results. The experimental procedure followed in these experiments was more accurate than the one according to the DIN standard. Moreover, the results were consistent. Therefore, at least for the above-mentioned mixtures, the objective technical problem should have been formulated as how the preservative properties of known compositions could be improved without compromising their suitability as consumer products.

9.3 The board disagrees for the following reasons.

9.3.1 As set out above, experimental reports D18a, D19, A035, A036 and A037 were not admitted into the proceedings. Thus, the results contained in them are not to be considered.

9.3.2 According to paragraph [0131] of the patent, the SI of a binary mixture of substances A and B is calculated according to the Kull equation:

$$SI = (MIC_{mixture} \times P_A) / MIC_A + (MIC_{mixture} \times P_B) / MIC_B$$

where:

MIC_A is the MIC value for substance A

MIC_B is the MIC value for substance B

MIC_{mixture} is the MIC value for the mixture of A and B

P_A is the proportion of A in the mixture

P_B is the proportion of B in the mixture

A SI equal to or greater than 1 means that no synergy is present.

According to paragraph [0130] of the patent, the MIC values to be used in the above equation are to be measured according to the DIN standard disclosed in D15 to D17.

9.3.3 Document D1 reports a lack of synergism for a number of mixtures falling under claim 1 of the main request. SIs greater than or equal to 1, determined as described above, and implying a lack of synergism, are reported in D1 (table on page 6) for binary mixtures of 4-HAP with, *inter alia*, 1,2-hexanediol, 1,3-propanediol and 1,2-pentanediol in a 1:1 and/or 1:3 weight ratio for five different microorganisms, namely, *Staphylococcus aureus*, *Candida albicans*, *Aspergillus brasiliensis*, *Pseudomonas aeruginosa* and *Escherichia coli*.

9.3.4 The appellant criticised the results of D1 by submitting that they concerned mixtures in simplified environments, i.e. in water or an artificial broth. According to the appellant, the respondent had based its conclusions on the simplified MIC determination

according to example 5 of the patent without analysing the preservative effect of the claimed compositions in environments closer to reality. This analysis could have been done only by using the challenge test, and this had not been done in D1. Additionally, the appellant brought forward that the MIC determined in D1 had probably been underestimated in view of the poor solubility of 4-HAP in water. A lower MIC would have led to higher SIs in view of Kull's equation.

9.3.5 These arguments are not convincing. Claim 1 of the main request defines the antimicrobial mixture only in terms of 4-HAP and at least one second antimicrobial agent. No solvent is mentioned. Therefore, claim 1 of the main request encompasses as the solvent water and the broth used in the experiments of D1 (see footnote to table 1 on page 3).

9.3.6 Moreover, the tests of D1 (page 2) were carried out according to the DIN standard (documents D15 to D17) as disclosed in paragraph [0130] of the patent to determine the MIC of the single components and the mixture to be then used for the calculation of the SI (see above). This is the procedure also used in example 5 of the patent to calculate the SI of the tested mixtures (paragraphs [0130] and [0131]). Therefore, the appellant's allegation that the challenge test should have been used to assess synergy is contradicted by the teaching of the patent, according to which, the synergism of the antimicrobial mixtures is to be determined on the basis of MIC measurements. Furthermore, the board concurs with the respondent that should the challenge test be more demanding, as submitted by the appellant, mixtures showing synergism on the basis of the challenge test should *a fortiori* also show synergism on the basis of the MIC determination. Likewise, mixtures not showing any

synergism on the basis of the MIC determination, as was the case in D1, would not show any synergism on the basis of the challenge test either.

- 9.3.7 As regards the lack of 4-HAP dissolution alleged by the appellant, no dissolution problems are reported in D1, which, on the contrary, reports that no precipitates were formed (page 3). This appellant's allegation thus amounts to mere speculation.
- 9.3.8 The appellant had referred to example 4 of the patent, allegedly showing that a binary mixture of 4-HAP and 1,2-hexanediol exhibited synergy. However, example 4 of the patent (paragraphs [0128] and [0129]) at most demonstrates the synergy of a 1:1 mixture of 4-HAP and 1,2-hexanediol against a single microorganism, *Aspergillus brasiliensis*. In contrast, the results of D1 show that no synergy is obtained for 1:1 and 1:3 binary mixtures of 4-HAP and 1,2-hexanediol against five different microorganisms, including *Aspergillus brasiliensis*. This observation of the board was not disputed by the appellant at the oral proceedings.
- 9.3.9 In view of the more extensive tests carried out in D1, the board is convinced that no synergy can be recognised for the mixture of 4-HAP and 1,2-hexanediol as defined in claim 1 of the main request, i.e. not requiring any specific weight ratio or microorganisms, against which antimicrobial activity should be shown.
- 9.3.10 As regards the results in D14 and D18 for binary mixtures of 4-HAP with 1,3-propanediol or 1,2-pentanediol, as admitted by the appellant, the experiments were not carried out in accordance with the DIN standard (D15 to D17) referred to in the patent. A much higher concentration of the tested microorganisms was used (1 to 6×10^6 CFU/ml for bacteria and 1 to 9×10^7 CFU/ml for fungi (see the reply to the notice of

opposition dated 25 July 2019, page 11, point 2 and the letter dated 28 February 2020, page 5 under point 2) versus 1 to $5 \cdot 10^5$ CFU/ml for bacteria and 0.5 to $2.5 \cdot 10^3$ CFU/ml for fungi according to item 10.5 of D16 and item 10.4.1.1 of D17).

9.3.11 While the appellant argued that this deviation from the DIN standard did not affect the results in terms of the synergism of the mixtures tested, the board concurs with the respondent that standards are established to allow a direct comparison between different sets of data. Moreover, in the current case, the patent itself discloses that the DIN standard according to D15 to D17 had to be used. Therefore, the board regards the results in D1 as being more reliable than those in D14 and D18.

9.3.12 Regardless of the validity of the experimental results in D14 and D18, D1 also demonstrates the absence of synergism for binary mixtures of 4-HAP and 1,3-propanediol against *Aspergillus brasiliensis* and for binary mixtures of 4-HAP and 1,2-pentanediol against *Aspergillus brasiliensis* and *Pseudomonas aeruginosa*. Synergy against these microorganisms was not tested in D14 and D18. This board's observation was not disputed by the appellant at the oral proceedings.

9.3.13 Therefore, also no synergy can be recognised for binary mixtures of 4-HAP with 1,3-propanediol or 1,2-pentanediol as defined in claim 1 of the main request, i.e. not requiring any specific weight ratio or microorganisms, against which antimicrobial activity should be shown.

9.4 It follows that, at least for binary mixtures of 4-HAP with any of 1,2-hexanediol, 1,3-propanediol and 1,2-pentanediol as covered by claim 1 of the main request, the board concurs with the respondent that, starting

from D3/D3a, the objective technical problem has to be seen in the provision of an alternative antimicrobial mixture suitable for use as a preservative in consumer products.

9.5 In writing, the appellant also submitted that in view of the results in example 5 of the patent, D14 and D18, the burden to prove a lack of synergy remained on the respondent in accordance with established case law. The appellant (letter dated 21 July 2022, paragraph bridging pages 3 and 4) referred to the Case Law of the Boards of Appeal of the EPO, ninth edn. ("Case Law"), Section III.G.5.1.1.

9.6 However, the Case Law passage referred to by the appellant concerns the case dealt with in decision T 596/99 in which the opponent succeeded in casting serious doubts on the persuasiveness of the patentee's evidence merely by arguing that this evidence was erroneously evaluated by the examining division. The competent board stated that the opponent's allegation might have rendered the patentee's evidence inappropriate but did not discharge the opponent from the burden to submit convincing counter-evidence that the claimed subject-matter could not achieve the technical effect brought forward by the patentee.

This rationale is not applicable to the case at hand, where the opponent/respondent did submit experimental evidence in the form of D1 showing that for mixtures falling under claim 1 of the main request, no synergism was obtained.

10. Obviousness of the claimed solution

10.1 The appellant argued that even if no technical effect were ascribed to the inclusion of at least one of the (b) compounds mentioned in claim 1 of the main request, the claimed subject-matter would still not have been

obvious to the skilled person. There was no prompt in D3/D3a nor the remaining prior-art documents cited by the respondent to combine 4-HAP with another antimicrobial agent.

- 10.2 The board disagrees. When the objective technical problem merely lies in the provision of an alternative composition, no prompt or pointer towards the claimed solution is required. It is sufficient that the skilled person would have considered the claimed solution a reasonable alternative to the composition of the closest prior art (see T 1968/08, Reasons 5.5; T 12/07, Reasons 4.1.6; T 1045/12, Reasons 4.7.7).
- 10.3 Antimicrobial compositions including more than one antimicrobial agent are well known to the skilled person. The board concurs with the respondent that the compounds recited under (b) in claim 1 of the main request are well-known antimicrobial agents to be used alone or in combination, especially as preservatives in consumer products. For example, D6 discloses (claims 1 and 4) cosmetic compositions comprising one or more alkane-diols as antimicrobial agent, thus pointing to e.g. the alkane-diols 1,3-propanediol, 1,2-pentanediol and 1,2-hexanediol. D7 discloses (pages 138 and 140) cosmetic preparations including 1,2-hexanediol as a preservative antimicrobial agent.
- 10.4 Therefore, the skilled person facing the above-mentioned objective technical problem would have been prompted, e.g. by D6 or D7, to include 1,3-propanediol, 1,2-pentanediol or 1,2-hexanediol in the composition of D3/D3a already including 4-HAP and stated to be suitable for use as a preservative in consumer products. In doing this, the subject-matter of claim 1 of the main request would have been obtained without inventive skill.

10.5 For these reasons, the board concluded that the subject-matter of claim 1 of the main request lacks an inventive step in view of D3/D3a taken as the closest prior art (Article 56 EPC). Therefore, the main request is not allowable.

Auxiliary requests 1 and 7 - admittance into the proceedings - Articles 12(6), 13(1) and 13(2) RPBA

11. The appellant filed auxiliary requests 1 and 7 as auxiliary requests 6 and 7 by letter dated 1 February 2024, i.e. 20 days in advance of the oral proceedings.

11.1 Claim 1 of auxiliary request 1 reads as follows, the amendments to claim 1 of the main request have been highlighted by the board:

"1. An antimicrobial mixture comprising

(a) 4-Hydroxyacetophenone

and

(b) ~~at least one~~ a second antimicrobial agent selected from the group consisting of ~~1,3-propanediol, methyl propanediol, 1,2-pentanediol, 1,2-hexanediol, 1,2-octanediol, ethylhexylglycerin, hexoxy-propan-1,2-diol, heptoxy-propan-1,2-diol, octoxy-propan-1,2-diol, 3-benzyloxy-propan-1,2-diol, 3-phenyl-ethyloxy-propan-1,2-diol, 3-phenylpropyloxy-propan-1,2-diol, 3-methylbenzyloxy-propan-1,2-diol, 3-phenyl propanol, and 2-phenoxyethanol.~~"

11.2 Claim 1 of auxiliary request 7 is identical to claim 1 of auxiliary request 1 with the following additional feature at the end of the claim:

"wherein the mixture contains the 4-Hydroxyacetophenone and the second antimicrobial agent in a weight ratio of 40:60 to 60:40"

- 11.3 The respondent requested that auxiliary requests 1 and 7 not be admitted into the proceedings.
- 11.4 Under Article 12(6) RPBA, the board shall not admit, *inter alia*, claim 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.
- 11.5 The appellant argued that the amendments in auxiliary requests 1 and 7 clearly resolved the issue raised by the board under Article 123(2) EPC. Moreover, the amendments overcame the objection of inventive step since the claimed subject-matter had been restricted to mixtures, the synergy of which had not been invalidated by the results reported in D1.
- 11.6 However, as explained below, no new issue under Article 123(2) EPC had been raised by the board in its communication under Article 15(1) RPBA. The objection that claim 1 of the main request (identical to claim 1 as granted) contained subject-matter extending beyond the content of the application as filed had been raised by the respondent in the notice of opposition. Auxiliary requests seeking to overcome this objection should thus have been filed before the opposition division. Similarly, D1 was filed with the notice of opposition. A restriction to mixtures whose synergy is not questioned in D1 should also have been filed before the opposition division as a timely response to the filing of D1.
- 11.7 Therefore, the board concluded that auxiliary requests 1 and 7 could and should have been filed before the opposition division. Solely for this reason, auxiliary requests 1 and 7 were not admitted under Article 12(6) RPBA.

- 11.8 Moreover, under Article 13(1) RPBA, any amendment to the appellant's case after it has filed its grounds of appeal is subject to the appellant's justification for its amendment and may be admitted only at the discretion of the board. The board exercises its discretion in view of, *inter alia*, procedural economy. Moreover, under Article 13(2) RPBA, any amendment to a party's appeal case made after notification of a communication under Article 15(1) RPBA, shall, in principle, not be taken into account unless there are exceptional circumstances justified with cogent reasons by the party concerned.
- 11.9 The appellant argued that the filing of auxiliary requests 1 and 7 did not constitute an amendment of its case. The claimed subject-matter had merely been restricted to mixtures disclosed in the examples of the patent. Therefore, the subject of the proceedings had not changed. No new controversial issues arose. The situation was thus similar to cases T 995/18 and T 1597/16, in which newly filed claim requests had been admitted since they did not constitute an amendment of the appeal case.
- 11.10 The appellant further argued that even considering auxiliary requests 1 and 7 to be an amendment of the case, exceptional circumstances justified their admittance. As regards added subject-matter, the board indicated in point 3.5 of its preliminary opinion that examples 1 to 5 of the application as filed could at most constitute a pointer towards the selection of some but not all the (b) compounds defined in claim 1 of the main request. The restriction of the list of (b) compounds in claim 1 of auxiliary requests 1 and 7 responded to this new issue raised by the board. The earlier objection of the respondent under Article

123(2) EPC had been far more general, meaning that the appellant could not have reacted earlier.

Furthermore, a simple deletion of compounds simplified the proceedings and overcame the board's objection under Article 123(2) EPC since the claimed mixtures were used in examples 1, 2 and 5 of the application as filed.

Moreover, in view of the discussion of inventive step of the main request at the oral proceedings - notably the need to split the objective technical problems solved by alternatives covered by the subject-matter of claim 1 - claim 1 of auxiliary requests 1 and 7 was limited to mixtures exhibiting synergy. In this way, the objections raised by the board and the respondent were clearly overcome since the claimed binary mixtures were not addressed in D1.

- 11.11 However, contrary to the appellant's view, the deletion carried out in claim 1 of auxiliary requests 1 and 7 does change the subject of the proceedings. A large number of binary mixtures is no longer claimed in claim 1 of these requests. Until shortly before the oral proceedings before the board, the appellant had never expressed the intention to restrict the (b) component of claim 1 to a selection from only the three compounds mentioned in claim 1 of auxiliary requests 1 and 7. This implied a change in the subject underlying the appeal. Prior to the filing of auxiliary requests 1 and 7, there was no need for the respondent to discuss the mixtures with the (b) compounds now left in claim 1 since there were objections against numerous other embodiments. For these reasons, the filing of auxiliary requests 1 and 7 constitutes an amendment of the appellant's case subject to the above-mentioned provisions of Article 13(1) and (2) RPBA.

- 11.12 As admitted by the appellant, none of the mixtures defined in claim 1 of auxiliary requests 1 and 7 was tested in D1 filed with the notice of opposition. Therefore, it must have been immediately apparent to the appellant at that stage of the proceedings that the restriction to these mixtures would have overcome the objections based on the results of D1. Hence, this restriction should have been made, and accordingly auxiliary requests 1 and 7 should have been filed, in direct reaction to D1 during opposition proceedings.
- 11.13 Furthermore, the deletion of the objected mixtures at such a late stage of the appeal proceedings could not have been expected by the respondent which, if the amendment had been admitted, would have been left without any possibility to react. Admitting auxiliary requests 1 and 7 would thus also have been against procedural economy.
- 11.14 For these reasons, the filing of auxiliary requests 1 and 7 constitutes an amendment of the appellant's case not to be admitted under Article 13(1) RPBA.
- 11.15 This conclusion is not in contrast with the case law invoked by the appellant.
- 11.15.1 In the case underlying decision T 995/18, auxiliary request 1 filed during oral proceedings was admitted because in comparison to the main request underlying the appealed decision, only a dependent claim had been deleted (point 2 of the Reasons). This rationale is not applicable to the current case. Auxiliary requests 1 and 7 do not differ from any higher-ranking request by the mere deletion of a dependent claim but contain a new independent claim 1.
- 11.15.2 In the case underlying decision T 1597/16, a new main request was admitted because, after deletion of one among three alternatives, the claimed subject-matter

was *prima facie* allowable since all objections had been overcome and no new issues arose (see point 4 of the Reasons). This is not the case here as explained below.

- 11.16 Contrary to the appellant's view, if admitted, auxiliary requests 1 and 7 would have raised several new complex issues. In fact, due to the restriction in claim 1 of the (b) component to only three compounds, the compliance of the claimed subject-matter with Article 123(2) EPC would have had to be re-assessed. In claim 1 of auxiliary request 7, the situation is even more complex due to the insertion of the weight ratio feature, a feature taken from the description of the application as filed (page 7, lines 6 to 8).
- 11.17 Moreover, as pointed out by the respondent, the limitation, if any, imparted by the deletion of the term "*at least one*" in claim 1 of both requests would have had to be assessed, especially in view of the clarity requirements under Article 84 EPC. The respondent also questioned the compliance of claim 1 of both requests with Rule 80 EPC. Also for these reasons, the admittance of auxiliary requests 1 and 7 would have been detrimental to procedural economy.
- 11.18 As set out above, auxiliary requests 1 and 7 are not to be admitted under Articles 12(6) and 13(1) RPBA. This in itself is reason enough for not admitting the requests. For the sake of completeness, the board would like to also comment on Article 13(2) RPBA and whether the amendment of the appeal case by way of auxiliary requests 1 and 7 is due to exceptional circumstances. The board's observations on added subject-matter in point 3.5 of the communication issued in preparation for the oral proceedings do not represent exceptional circumstances that justify filing auxiliary requests 1 and 7. In fact, the respondent had raised an objection of added subject-matter in view of the combination of

4-HAP and the (b) compounds defined in claim 1 of the main request (point IV above) in the notice of opposition. The objection was reiterated in the reply to the statement of grounds of appeal (point 7.1).

11.19 Under point 3.5 of the communication under Article 15(1) RPBA, the board had merely considered the appellant's argument that the examples of the application as filed would have provided a pointer to the selection of the (b) compounds defined in claim 1 of the main request. The board noted that the examples might have at most represented a pointer towards the specific compounds used in the examples. This statement was clearly not a new objection or an invitation to file additional claim requests. Otherwise, any negative board comment on arguments submitted by a patent proprietor contained in the board's preliminary opinion would represent an exceptional circumstance justifying the filing of new claim requests. Furthermore, not all the (b) compounds used in the examples of the application as filed were included in claim 1 of auxiliary requests 1 and 7; only three were.

11.20 Also, the inventive-step discussion on claim 1 of the main request at the oral proceedings on the split objective technical problem cannot be considered to represent exceptional circumstances justifying the filing of auxiliary requests 1 and 7. As stated above, the appellant argued that claim 1 had been restricted to mixtures not addressed by the experimental results of D1. But a restriction to mixtures whose synergy had not been disputed by D1 should have been filed before the opposition division for the reasons set out above.

11.21 In any case, the inventive-step discussion on the split objective technical problem was caused by the appellant's extremely late submission on this split problem only during the oral proceedings. If

introducing new subject-matter late in oral proceedings and its discussion were a valid reason to file a new claim request in response, patent proprietors would have *carte blanche* to file any auxiliary request they wish by simply introducing new subject-matter to which an auxiliary request can be argued to be a reaction. This would render the Rules of Procedure moot and thus cannot be a correct approach.

11.22 Therefore, no exceptional circumstances justified the admittance of auxiliary requests 1 and 7.

11.23 For these reasons, the board decided not to admit auxiliary requests 1 and 7, also pursuant to Article 13(2) RPBA.

Auxiliary requests 2 to 6 - claim 1 - inventive step under Article 56 EPC

12. Auxiliary requests 2 to 6 were filed as auxiliary requests 1 to 5 with the statement of grounds of appeal.

12.1 Auxiliary requests 2 to 4

12.1.1 Claim 1 of auxiliary requests 2 to 4 has been amended compared with claim 1 of the main request (point IV above) by restricting the list of (b) compounds. Claim 1 of auxiliary request 4, in which the list of (b) compounds is most restricted, reads as follows, the amendments to claim 1 of the main request highlighted by the board:

"1. An antimicrobial mixture comprising

(a) 4-Hydroxyacetophenone

and

(b) at least one second antimicrobial agent selected from the group consisting of 1,3-propanediol, methyl propanediol, 1,2-pentanediol, 1,2-

hexanediol, 1,2-octanediol, ethylhexylglycerin, hexoxy-propan-1,2-diol, heptoxy-propan-1,2-diol, octoxy-propan-1,2-diol, 3-benzyloxy-propan-1,2-diol, 3-phenyl-ethyloxy-propan-1,2-diol, 3-phenylpropyloxy-propan-1,2-diol, 3-methylbenzyloxy-propan-1,2-diol, 3-phenyl propanol, 2-phenoxyethanol."

- 12.1.2 As in claim 1 of the main request, the (b) component still includes 1,3-propanediol, 1,2-pentanediol and 1,2-hexanediol. As set out above, binary mixtures comprising each of these compounds and 4-HAP are rendered obvious by D3/D3a in combination with, e.g. D6 or D7. Therefore, the same observations by the board on lack of inventive step of claim 1 of the main request apply *mutatis mutandis* to the subject-matter of claim 1 of auxiliary requests 2 to 4. This conclusion was not disputed by the appellant at the oral proceedings.
- 12.1.3 For these reasons, auxiliary requests 2 to 4 are not allowable under Article 56 EPC.
- 12.2 Auxiliary request 5
- 12.2.1 Claim 1 of auxiliary request 5 differs from claim 1 of auxiliary request 4 (see above) only in that the claimed antimicrobial mixture is further specified as being "*for preserving a personal care composition, a detergent composition or a food composition*".
- 12.2.2 The additional expression in claim 1 of auxiliary request 5 defines that the claimed antimicrobial mixture has to be suitable for the mentioned use. As set out above, the mixture disclosed in D3/D3a is regarded as being suitable as a preservative in cosmetic and detergent compositions. Both documents D6 and D7 disclose preservative compounds for cosmetic compositions.

12.2.3 It follows that the same observations by the board on lack of inventive step of claim 1 of the main request apply *mutatis mutandis* to the subject-matter of claim 1 of auxiliary request 5. This conclusion was not disputed by the appellant at the oral proceedings.

12.2.4 For these reasons, auxiliary request 5 is not allowable under Article 56 EPC.

12.3 Auxiliary request 6

12.3.1 Claim 1 of auxiliary request 6 is not directed to an antimicrobial mixture but to "*a method for preserving a personal care composition, a detergent composition or a food composition by adding a mixture*" comprising 4-HAP and at least one (b) component selected from the same list of compounds as in claim 1 of auxiliary request 4 (see above).

12.3.2 The appellant argued that the claimed method implied specific properties of the antimicrobial mixture not hinted at in the available prior art.

12.3.3 However, no specific properties of the antimicrobial mixture are mentioned in claim 1 of auxiliary request 6. As set out above, the mixture disclosed in D3/D3a is regarded as being suitable for use for preserving cosmetic and detergent compositions. Additionally, both documents D6 and D7 disclose preservative compounds for cosmetic compositions.

12.3.4 It follows that the same observations by the board on lack of inventive step of claim 1 of the main request apply *mutatis mutandis* to the subject-matter of claim 1 of auxiliary request 6.

12.3.5 For these reasons, auxiliary request 6 is not allowable under Article 56 EPC.

Conclusion

13. None of the claim requests of the appellant is both admissible 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