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Datasheet for the decision of 24 January 2024

Case Number: T 0673/22 - 3.2.01

Application Number: 12764151.2

Publication Number: 2647299

IPC: A24F47/00, A24B15/28

Language of the proceedings: EN

Title of invention:
NON-COMBUSTION SUCTION TYPE TOBACCO PRODUCT

Patent Proprietor:
Japan Tobacco, Inc.

Opponents:
Philip Morris Products S.A.
Nicoventures Trading Limited

Headword:

Relevant legal provisions:
EPC Art. 100(b), 54, 56, 123(2), 84
RPBA 2020 Art. 12(2)
EPC R. 103(1)(a)

Keyword:

Grounds for opposition - insufficiency of disclosure (no)
Auxiliary request 3A - novel - (yes)
main request and auxiliary requests 1, 2A, 2B, 3A, 3B - Inventive step - (no)
Auxiliary request 4A - primary object of appeal proceedings to review decision - appeal case directed to requests on which decision was based (yes)
Auxiliary request 4A - Amendments - allowable (yes)
Auxiliary request 4A - Inventive step - (yes)
Reimbursement of appeal fee - (no)
Description to be adapted

Decisions cited:

T 1989/18, T 1444/20, T 1024/18, T 0121/20, T 2293/18, T 2766/17, T 1516/20

Catchword:

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Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0673/22 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 24 January 2024

Appellant: (Patent Proprietor)	Japan Tobacco, Inc. 2-1, Toranomon 2-chome Minato-ku Tokyo 105-8422 (JP)
Representative:	Bandpay & Greuter 30, rue Notre-Dame des Victoires 75002 Paris (FR)
Appellant: (Opponent 1)	Philip Morris Products S.A. Quai Jeanrenaud 3 2000 Neuchâtel (CH)
Representative:	HGF HGF Limited 1 City Walk Leeds LS11 9DX (GB)
Appellant: (Opponent 2)	Nicoventures Trading Limited Globe House 1 Water Street London WC2R 3LA (GB)
Representative:	D Young & Co LLP 120 Holborn London EC1N 2DY (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 11 January 2022 concerning maintenance of the European Patent No. 2647299 in amended form.**

Composition of the Board:

Chairman	G. Pricolo
Members:	S. Mangin
	M. Millet

Summary of Facts and Submissions

I. The appeals were filed by the appellant 3 (proprietor) and appellants 1 and 2 (opponents 1 and 2 respectively) against the interlocutory decision of the opposition division finding that, on the basis of the auxiliary request 3A, the patent in suit (hereinafter "the patent") met the requirements of the EPC.

II. The opposition division held that:
- the main request was admissible, the invention sufficiently disclosed and the subject-matter of claim 1 novel over D21 (WO 2011/045609 A1) but not over D1 (US 4,981,522),
- auxiliary request 1 was admissible and fulfilled the requirements of Article 123(2) EPC however the subject-matter of claim 1 was not novel over D2 (GB 2469838 A),
- auxiliary request 2A was not novel over D2, and
- auxiliary request 3A was admissible, the request for postponement of the oral proceeding was not granted, the requirements of Article 123(2) EPC were fulfilled and the subject-matter of claim 1 involved an inventive step starting from D2.

III. Oral proceedings were held before the Board on 24 January 2024.

IV. The appellant 3 (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained on the basis of the main request, or in the alternative on the basis of any of auxiliary requests 1, 2A, 2B, 3A, 3B, 4A, 4B, 5A or 5B filed with the statements of grounds of appeal or auxiliary requests 6A or 6B filed with the reply to the statements of

grounds of appeal or auxiliary requests 7A or 7B filed with letter of 3 May 2023.

The appellant 1 (opponent 1) requested that the decision under appeal be set aside and that the European patent No. 2647299 be revoked.

The appellant 2 (opponent 2) requested that the decision under appeal be set aside and that the European patent No. 2647299 be revoked.

V. Main request (identical to the main request in opposition)

The independent claim 1 of the main request comprising the feature numbering used by the appellant 3 (patent proprietor) on page 3 of its grounds of appeal reads as follows:

F1. A non-combustion suction type tobacco product (1) comprising
F2. tobacco particles (20) obtained by shredding or pulverizing tobacco material,
F3. the tobacco product (1) mixing nicotine specific to tobacco, which is generated from the tobacco particles (20), into suction air, and delivering the nicotine with the suction air into a user's mouth,
characterized in that
F4. the tobacco particles (20) further contain at least one kind of stabilizer (C-E, G,H) for stabilizing the nicotine delivery to the user; and
F5. said stabilizer (C-E, G, H) has a characteristic where solubility parameter distance (Ra) with respect to the nicotine is 12 $MPa^{1/2}$ or less, and
F6. vapor pressure at a temperature of 25 degrees centigrade is 0.1 mmHg or less.

VI. Claim 1 of auxiliary request 1 corresponds to claim 1 of the main request wherein feature F4 has been amended to read:
"at least one kind of stabilizer (C-E, G, H) is comprised in the tobacco particles for stabilizing the nicotine delivery to the user".

VII. Claim 1 of auxiliary request 2A corresponds to the combination of claims 1 and 2 of the main request, with claim 2 of the main request reading:
"wherein said stabilizer is selected from among compounds containing an ester group".

VIII. Claim 1 of auxiliary request 2B corresponds to the combination of claims 1 and 2 of auxiliary request 1.

IX. Claim 1 of auxiliary request 3A corresponds to the combination of claims 1-4 of the main request. The combination of claims 2-4 reading as follows:
"wherein said stabilizer is selected from the group consisting of a medium-chain triglyceride, triethyl citrate, tributyl citrate, benzyl benzoate, and ethyl laurate".

X. Claim 1 of auxiliary request 3B corresponds to the combination of claims 1-4 of the auxiliary request 1.

XI. Claim 1 of auxiliary request 4A corresponds to claim 1 of auxiliary request 3A with the deletion of the stabilizer "*triethyl citrate*".

XII. In the present decision, reference is made to the further following documents:
D4: US 4,917,120

D27: Datasheet showing solubility parameters and calculated solubility parameter distance values Ra for several compounds obtained with the program Molecular Modeling Pro Version 6.01 (cf. paragraph [0037] of the opposed patent)
D30: US 3,095,882

Reasons for the Decision

1. Sufficiency of disclosure - Article 100(b) EPC

The invention is disclosed in manner sufficiently clear and complete to be carried out by a person skilled in the art.

During oral proceedings the parties referred to their written submission regarding sufficiency of disclosure.

1.1 Appellant 1 (opponent 1) argued in the statement of grounds of appeal that the patent did not provide sufficient information to be able to determine without undue burden the solubility parameter distance (Ra) in particular of "medium chain triglyceride" with respect to the nicotine.

The patent failed to fully enable the claim across its scope, as no guidance was given as to how to determine whether or not a medium chain triglyceride had an Ra value that met the requirements of claim 1.

According to paragraph [0037] of the patent, the solubility parameter distance (Ra) could be calculated using Molecular Modelling Pro Version 6.01. However, this version of the software offered three modes of calculation and the patent was silent as to which one to adopt.

Furthermore, "medium chain triglyceride" was a broad term. It covered triglycerides with fatty acids having an aliphatic tail of 6–12 carbon atoms. Typically, 2 or 3 fatty acids were present and they needed not be the same. The Molecular Modeling Pro Version 6.01 software disclosed in the patent might allow a skilled person to determine Ra when a medium chain triglyceride with 3 identical fatty acid chains (e.g. C6, C8) was used. However, the term "medium chain triglyceride" was a lot broader and covered compounds that did not necessarily have identical chains, or even necessarily 3 chains.

Moreover, claim 1 was not limited to Ra values that had been calculated using the Molecular Modeling Pro Version 6.01 software mentioned in paragraph [0037] of the patent as the claims were not limited using the aforementioned software. The patent failed to fully enable the claim across its scope, as no guidance was given as to how to determine whether or not a medium chain triglyceride had an Ra value that met the requirements of claim 1. According to appellant 1, this was not merely a question of scope. The differences underpinned a fundamental insufficiency under Article 83 EPC because they prevented a skilled person from reproducing the invention in a manner that solved the technical problem.

1.2 The Board is not convinced by the arguments of appellant 1 (opponent 1). As argued by the opposition division and the appellant 3 (patent proprietor), the objections regarding the solubility parameter distance (Ra) with respect to nicotine of the stabilizer are clarity objections for the reason that the method for determining the aforementioned parameter is not indicated in the claim. Depending on the method used,

the solubility parameter distance (Ra) with respect to nicotine of the stabilizer may vary leading to the boundaries of the claims being unclear.
However, this does not amount to a lack of sufficiency of disclosure as the whole scope of the claim is not affected, in the sense that it is impossible to carry out the invention.

Firstly, it is to be noted that the parties accepted that the stabilizers such as triethyl citrate, tributyl citrate, benzyl benzoate and ethyl laurate have a solubility parameter distance (Ra) with respect to nicotine of 12 MPa ½ or less. In any case as will be shown below Ra can be calculated for these compound as well as for the medium chain triglyceride with the information provided in the patent.

Secondly, the description as a whole and the skilled person's general knowledge are to be considered when assessing sufficiency of disclosure. Paragraph [0037] discloses that Ra is calculated using Molecular Modeling Pro Version 6.01. While the program offers three methods, (a) van Krevelen and Hoftyzer, (b) Hoy and (c) the Hansen proprietary method, the Hoy method would be excluded by the skilled person because the program cannot calculate the solubility parameter distance Ra with respect to nicotine for this method. Furthermore, document D27 submitted by the proprietor shows that the Ra values in the patent have been calculated with the Hansen’s proprietary method (c). Indeed, the values of Ra using the Hansen proprietary method in the table of D27 match with the values in table 1 of the patent whereas the Ra values calculated with the van Krevelen and Hoftyzer method (a) does not. So the skilled person is able to determine the specific

method used in the patent to determine the Ra value of the claimed stabilizers.

Thirdly, as for the medium-chain triglyceride, the patent provides in paragraph [0036] further information, namely:
"Stabilizer C is a medium-chain triglyceride consisting primarily of triglyceride caprylate, or more specifically, Coconard MT made by Kao Corporation".
Therefore, for medium-chain triglyceride, the opposed patent as a whole gives a detailed description of at least one way of carrying out the invention according to claim 1.

The Boards finally notes that the admissibility objection of appellant 3 (patent proprietor) (reference is made to page 3 of their reply to the appeal) pursuant to Article 12(4) RPBA 2020 regarding the objection against the "medium-chain triglyceride" that could not be determined without undue burden, raised by appellant 1 for the first time in appeal, can be left aside as the Board judges that the invention is disclosed in a manner sufficiently clear and complete for the skilled person to carry out the invention also in view of the medium-chain triglyceride stabilizer.

2. Auxiliary request 3A

The subject-matter of claim 1 is novel over D2, however it does not involve an inventive step in view of D2 alone.

2.1 Appellant 3 (patent proprietor) argued that the subject-matter of claim 1 was not directly and unambiguously disclosed in a single embodiment of D2

but that selections were necessary to arrive at the subject-matter of claim 1.

2.1.1 Example 1 of D2 related to a conventional cigarette and not a "non-combustion suction type tobacco product" and used triacetin as the diluent and, thus, not a stabilizer according to claim 1 of auxiliary request 3A. Thus, example 1 of D2 did not anticipate the subject-matter of claim 1 of auxiliary request 3A.

2.1.2 From the general section of D2, selections were required:
- for tobacco particles obtained by shredding (page 2, lines 19-25),
- for a heat-not-burn-product as the smoking article (page 6, lines 15-22), which was not preferred,
- for the configuration that the diluent was in intimate contact with the tobacco (page 4, lines 30-33 and further page 3, line 31 to page 4, line 28) and
- for the diluent triethyl citrate from one of the three preferred alternatives (i.e. triacetin, triethyl citrate and isopropyl myristate).

D2 failed to disclose any pointer to the combination of a heat-not-burn product containing triethyl citrate as the diluent contained in shredded or pulverized tobacco particles. Hence, the subject matter of claim 1 of auxiliary request 3A was novel over D2.

2.1.3 Moreover, both the general description and example 1 of D2 also failed to disclose the functional feature that the stabilizer was for stabilizing the nicotine delivery to the user. In the patent in suit, this functional feature had been obtained and shown to be present in a tobacco product containing tobacco particles which directly contained a stabilizer,

without any associated barrier material. Whether combining tobacco material with a substance of the same kind, but additionally with a barrier material, implicitly (i.e., necessarily) provided the same functional feature or not, had not been proven by the appellants 1 and 2 (opponents 1 and 2). On the contrary, it appeared possible, and in fact plausible, that the presence of the barrier material might impair any stabilizing effect of a substance which could potentially (in other configurations) be used as a stabilizer.

In example 1 of D2, calcium alginate could plausibly prevent triacetin from stabilizing nicotine delivery. Alternatively, calcium alginate itself, as a barrier material, could provide a stabilizing function for nicotine delivery, in which case triacetin on the other hand would not provide this function.
Even if it were hypothetically considered that triacetin necessarily provided a stabilizing effect on nicotine delivery in cigarettes of example 1 when they were smoked in the traditional way – which had not been established – it would remain unknown whether such stabilizing effect would also be present if the cigarettes were hypothetically smoked without combustion.

2.1.4 Finally it was incorrect to consider that traditional cigarettes and heat-not-burn products were both suitable as non-combustion suction type tobacco products, especially following decision T461/17, and it was incorrect to consider that all tobacco materials in smoking articles were shredded in D2, the latter explicitly distinguishing between shredded tobacco leaves from other forms of tobacco (page 2, lines 19-25 and page 6, lines 7-13).

2.2 The appellants 1 and 2 (opponents 1 and 2) submitted the following arguments:

Firstly, both cigarettes and heat-not-burn products were suitable as non-combustion suction type tobacco products. Therefore, all of the products disclosed in D2 met the requirements of the claim. The combustion products disclosed in D2 performed as non-combustion products, for example when heated (and not combusted).

Secondly, all listed tobacco material in D2 were shredded from a larger tobacco leaf as the definition of shredded material was one that had been cut into smaller pieces from a larger material.

Thirdly, claim 1 did not require an intimate contact between the stabilizer and the tobacco particles, but only required that the "tobacco particle further contained at least one kind of stabilizer". In any case, D2 disclosed two embodiments. One embodiment in which the diluent was encapsulated and then contacted with the tobacco, whereby the diluent was then released at relatively low temperatures such as 50°C. In this embodiment the diluent was in contact with the tobacco when heated. In a second embodiment (such as disclosed in example 1 of D2) the diluent was applied directly to the tobacco by spraying. This clearly met the requirements of the claim.

Fourthly, the functional feature of the stabilizer was inherent to the stabilizer and the claim had to be read such that the stabilizer was suitable for stabilizing the nicotine delivery to the user. In any case at least after heating, the diluent would be in contact with the tobacco particle and act as a stabilizer.

Finally they contested the selections to be made for arriving at the subject-matter of claim 1 for the following reasons:
- the larger tobacco leaves were always shredded (so no selection needed),
- claim 1 encompassed conventional cigarettes that were not burned, but only heated (no selection needed),
- claim 1 did not require an intimate contact and in any case at least after the barrier released the diluent, the diluent would be in contact with the tobacco particles.
- Triethyl citrate was disclosed among 3 preferred diluents and could not be regarded as a selection, in any case a single selection was not a selection that could confer novelty.

2.3 The Board considers that all the features of claim 1 are disclosed in D2. However, starting from a non-combustion suction type tobacco product ("heat not burned"), the skilled person has to select the shredded tobacco material and the triethyl citrate as diluent and starting from the triethyl citrate diluent of claim 9, the skilled person has to select the "non-combustion suction type tobacco product" and the shredded tobacco material.

D2, page 6, lines 18-20 discloses that the term "smoking article" also includes so-called "heat-not-burn" products, which produce smoke or a smoke-like aerosol. A "heat-not-burn" smoking article corresponds to a non-combustion suction type tobacco product different to the conventional cigarettes that are burned.
While conventional cigarettes may possibly be heated and not burned, and possibly, deliver to the user

nicotine in an unsatisfactory manner, the skilled person does not consider a conventional cigarette to generally be a "heat-not-burned" article.

D2, page 2, lines 24-25 discloses that: *"the stem tobacco may be pre-processed or unprocessed and may be for instance, solid stems, shredded dried stems or steam treated stems".* The Board notes that although the larger tobacco leaves are cut to be inserted in the tobacco products, the skilled person would still distinguish between the different aforementioned forms of tobacco disclosed in D2.
Furthermore, D2, page 6, lines 7-13, discloses the amount of barrier material required with the example of shredded dried stem and the example 1 on page 6, line 28 uses shredded dried stem. While shredded dried stem is chosen in example 1, it is in combination with the diluent triacetin and a conventional cigarette. Although shredded dried stems appear to be the preferred tobacco form throughout the examples given in D2, it is not disclosed in combination with a heat-not-burn smoking article and the stabilizers defined in claim 1.

D2, page 3, lines 1-2 discloses that *"triacetin, triethyl citrate and isopropyl myristate are particularly preferred"* and claim 9 specifically claims *"triacetin, triethyl citrate and isopropyl myristate"*. The three diluents appear to be equally preferred, such that a selection is to be made among the three possible diluents.

However, the Board notes that claim 1 does not require an intimate contact between the diluent and the tobacco. There is no need for such a selection as argued by appellant 3. Indeed claim 1 only requires

that *"the tobacco particles further contain at least on kind of stabilizer".* D2 discloses that the diluent is applied to the tobacco by any suitable method known to the skilled person, including washing, soaking, spraying or admixture. The diluent may reside as a surface covering on the tobacco material, and/or at least some may be absorbed into the material. In the resulting product described on figures 1-3, the treated tobacco particles contain diluent, irrespective of whether barrier material 4 surrounds the diluent.

Furthermore, the triethyl citrate is inherently a nicotine stabilizer which is suitable for stabilizing the nicotine delivery to the user. Indeed in claim 1 the stabilizer "for stabilizing the nicotine delivery to the user" is to be read as "suitable for stabilizing the nicotine delivery".
In any case, the arguments of the appellant 3 (proprietor) that the barrier may prevent the triethyl citrate to act as a stabilizer for stabilizing the nicotine delivery to the user is unfounded. D2 specifically mentions that the barrier material inhibits migration of the diluent during storage of the smoking article but allows release of the diluent during the smoking of the smoking article (page 3, lines 31-33). As D2 is directed to a smoking article including "heat-not-burn" products (page 6, lines 18-20) this will apply to these types of products.

2.4 Regarding inventive step, the appellant 3 (patent proprietor) argued that starting from the heat-not burn tobacco product disclosed on page 6, lines 18-20, which was the most promising starting point, it was not obvious for the skilled person to arrive at the subject-matter of claim 1.

The two distinguishing features, the shredded nicotine and the specific stabilizers of claim 1 enabled stabilization of the nicotine delivery to the user. There was no incentive for the skilled person to select the shredded tobacco material and the triethyl citrate as diluent to improve the stability of the nicotine delivery.

2.5 The Board is not convinced by the arguments of appellant 3.
The two distinguishing features do not contribute to any technical effect as alleged by the appellants 1 and 2 (opponents 1 and 2) as the subject-matter of claim 1 does not define the amount of stabilizer, such that the stabilizer does not have a stabilizing effect over the whole scope of the claim. Indeed, paragraphs [0015] and [0057] of the patent state that: *"If the content is less than 5 percent by weight, a desired stabilization effect is not achieved with respect to the nicotine delivery amount. If the content is over 20 percent by weight, the stabilizer causes lumping of the tobacco particles 20, making it difficult to handle, namely fabricate, the tobacco particles 20"*.
Furthermore, the shredded tobacco material is not disclosed as having any advantage over the other forms of tobacco material.

The problem to be solved is thus to provide an alternative composition comprising a diluent with a specific form of tobacco product.
D2 teaches that triethyl citrate may be used as a preferred diluent among a short list of 3 diluents and D2 teaches that shredded tobacco material may be used and is present in the examples given. It is thus obvious for the skilled person to make these two selections to arrive at the subject-matter of claim 1.

3. Main request and auxiliary requests 1, 2A, 2B and 3B

The parties referred to their written submissions regarding these requests.

The Board sees no reasons to change its preliminary opinion stated in its communication pursuant to Article 15(1) RPBA 2020.

Regardless of whether auxiliary requests 1, 2B and 3B are to be admitted in the proceedings, the main request, auxiliary requests 1, 2A, 2B and 3B do not involve an inventive step starting from D2 for the same reasons as for auxiliary request 3A.

In fact, claim 1 according to auxiliary request 3A is more restricted as compared to claim 1 according to the main and auxiliary request 2A.
Moreover, claim 1 of auxiliary requests 1, 2B and 3B has been amended to recite:
"at least one kind of stabilizer (C-E, G, H) is comprised in the tobacco particles"
instead of:
"the tobacco particles further contain at least one kind of stabilizer (C-E, G, H)"
However, this amendment does not change the scope of the claim as compared to claim 1 of the main and auxiliary requests 2A, 3A, respectively, as argued by the appellants 1 and 2 (opponents 1 and 2).

The Board further notes that in their letter of 3 May 2023, appellant 3 (patent proprietor) argued that any objections against present auxiliary requests 1 and 3B should be considered as late submissions which could and should have been presented in first instance

proceedings and should not be admitted into the appeal under Article 12 RPBA 2020.
The Board, however, disagrees with the above, as these requests were not discussed during oral proceedings in opposition either because they were renumbered during oral proceedings or because they were ranked after the granted auxiliary request 4A (auxiliary request 3A in opposition). Reference is also made to pages 1 and 2 of appellant 2's letter of 6 June 2023.

In any case the objection of lack of inventive step starting from D2 is the same for auxiliary requests 1, 2A and 3A. This objection was already raised in opposition proceedings and applies also to auxiliary requests 1, 2B and 3B.

4. Auxiliary request 4A

Auxiliary request 4A was filed in opposition proceedings on 24 September 2021, the last day for making submissions and/or amendments pursuant Rule 116 EPC.

Claim 1 of auxiliary request 4A corresponds to claim 1 of auxiliary request 3A with the deletion of "triethyl citrate" from the list of stabilizers covered by claim 1 of auxiliary request 3A.
The stabilizers covered by claim 1 of auxiliary request 4A are:
"selected from the group consisting of a medium-chain triglyceride, tributyl citrate, benzyl benzoate, and ethyl laurate".

4.1 Admissibility - Article 12(2) RPBA 2020

The parties referred to their submissions for the admissibility of auxiliary request 4A. The Board confirms its preliminary opinion stated in its communication under Article 15(1) RPBA 2020, that the decision of the opposition division to admit auxiliary request 4A (auxiliary request 3A in the contested decision) is not to be overturned.

Auxiliary request 4A has been admitted by the opposition division (reference is made to point 22 on pages 14 and 15 of the appealed decision) and decided upon.
Thus, in accordance with Article 12(2) RPBA 2020, auxiliary request 4A is part of the appeal proceedings. It is established case law that, on appeal against a decision taken by a department of first instance, it is not for the Board to revisit the facts and circumstances of the case as if it were in that department's place and decide whether it would have exercised discretion in the same way. In the present case, the opposition division exercised its discretion in reaching the decision to admit auxiliary request 4A taking the right principles into account, in a reasonable way. In particular the opposition division noted that claim 1 of auxiliary request 4A was a combination of claims 1, 2, 3 as granted and restricted to one of the two options of claim 4 as granted, and that, therefore, the appellants 1 and 2 (opponents 1 and 2) could have raised objections from the outset of the opposition proceedings.

4.2 Added subject-matter - Article 123(2) EPC

The subject-matter of claim 1 fulfils the requirements of Article 123(2) EPC.

The subject-matter of claim 1 is a combination of claims 1, 3, 5 as filed and the alternative tributyl citrate of claim 6 as filed with the introduction of the unit "$MPa^{1/2}$" for the solubility parameter distance Ra with respect to the nicotine being 12, based on paragraph [0020] of the application as filed.

Contrary to the arguments brought forward by appellant 2 on pages 18 and 19 of their statement of grounds of appeal, only one selection is made, namely the selection of the alternative tributyl citrate among the two triester citrates disclosed in claim 6 as originally filed. This selection from a list of two alternatives does not provide the skilled person with any new technical teaching.

4.3 Inventive step in view of D2

The subject-matter of claim 1 involves an inventive step starting from D2 either alone or in combination with D4 or D30.

4.4 The appellants 1 and 2 (opponents 1 and 2) argued that D2 was directed to the same technical field as the present invention and was directed to the same purpose, namely delivery of nicotine from a tobacco product.

D2 disclosed triethyl citrate as diluent, which had a stabilizing function, however D2 did not disclose the tributyl citrate claimed.

In their view either starting from the "triethyl citrate" alternative of claim 9, or the heat-not-burn product disclosed on page 6, the subject-matter of claim 1 did not involve an inventive step. The use of

tributyl citrate over triethyl citrate had no effect because:
- the patent had failed to show any advantage in using tributyl citrate over triethyl citrate and,
- the content of the stabilizer was not defined in claim 1. Indeed the patent itself taught that no technical effect was achieved at low amount of stabilizers ([0015] and [0057] of the patent).

Therefore, the problem to be solved by the invention had to be defined as to provide an alternative composition.

D2, page 2, lines 27-33 read: *"Suitable non-polyols include monohydric alcohols, high boiling point hydrocarbons, acids such as lactic acid, and esters such as diacetin, triacetin, triethyl citrate or isopropyl myristate"*.

D2 taught that esters generally might be delivered and that an exemplary ester was triethyl citrate. D2 did not require any strict adherence to this particular material, for example by listing it as one of only specific materials, with no class being stated. Therefore, it would be prima facie obvious to try materials closely related to those specific materials listed (and in the same class).

It was known to the skilled person that ethyl and butyl esters of acids were well known equivalents of each other and were both (very) short chain esters and typically had very similar properties. Consequently, when considering alternative compositions one skilled in the art would obviously select alternative esters (since D2 taught esters as a class may be used) and

would obviously select esters closely related to the exemplified esters.

Appellant 1 further argued that the stabilising effect of diluents on nicotine was demonstrated in D4 and explained as a consequence of Raoult's Law. Specifically, D4 made it clear that stabilizing is best achieved if the diluent was miscible with nicotine (low Ra with respect to nicotine) and had a comparable vapour pressure. Accordingly, not only did D2 point towards other stabilizers, D4 indicated the characteristics that might be desirable. Indeed, D4 also recommended esters at column 5, lines 19 to 21. Both D2 and D4 pointed to esters as suitable diluents for nicotine stabilization. The selection of tributyl citrate, benzyl benzoate, and ethyl laurate was simply arbitrary and obvious, particularly in the absence of any evidence that these compounds were more effective than the triethyl citrate, triacetin or isopropyl myristate disclosed in D2.

Appellant 2 further argued that D30 related to flavourants suitable for incorporation in tobacco and tobacco products. This short document taught in example 16 that the *"pleasing, distinctive and subtle attributes of exemplary flavourant"* might be provided by a mixture which included diethyl citrate. When one then considered the general teachings of D30 it was disclosed at column 2, line 40 that *"Desirable flavorants include lower alkyl malates, lower alkyl malonates, lower alkyl succinates, lower alkyl tartrates and lower alkyl citrates"*. This was confirmed at claim 11 *"11. A tobacco product containing a flavorant characterized in being volatile below the pyrolysis temperature of tobacco, said flavorant being a lower alkyl citrate".*

Consequently, it could be seen that the specific disclosure of diethyl citrate was understood by the author of D30 to be exemplary of "lower" alkyl citrates. The author of D30 did not find the ethyl ester to be special in any way but to be indicative of the class of lower alkyl citrates. Therefore, it was apparent to one skilled in the art that the lower alkyl citrates were equivalent to each other. Triethyl citrate was equivalent to tributyl citrate.

4.5 The Board agrees that the use of tributyl citrate over the use of triethyl citrate has not the technical effect alleged by the appellant 3 (patent proprietor). As mentioned in relation with the inventive step of auxiliary request 3A, the absence in claim 1 of the amount of stabilizer does not confer a particular technical effect over the whole scope of the claim. The problem to be solved is to be regarded as to provide a non-combustion suction type tobacco product with an alternative solvent.

4.5.1 While triethyl citrate and tributyl citrate are both triester citrates, the appellants 1 and 2 have failed to show that it was common general knowledge to use tributyl citrate as a solvent in tobacco products. The skilled person in view of D2 alone with its common general knowledge would not therefore arrive at the subject-matter of claim 1.

4.5.2 Unlike D2, which comprises tobacco in the form of solid stems, shredded dried stems or steam treated stems, D4 comprises a fluid in its reservoir comprising nicotine. The skilled person looking for an alternative solvent to be contained in the tobacco particles would therefore not take D4 into consideration.

But even if the skilled person would combine the two documents, in D4 neither the passage at column 3, lines 35-43, nor the passage at column 5, lines 19-28 teaches the skilled person to use tributyl citrate as a solvent.

The first passage discloses at least partially esterified diol, triol and ethanol and the second passage discloses the generic term "ester" but D4 does not disclose the specific stabilizer used in claim 1 namely tributyl citrate.

4.5.3 The invention of D30 relates particularly to providing flavourful smoking products.
Starting from D2 the skilled person looking for an alternative solvent has no incentive to combine it with the teaching of D30.

In any event, D30 discloses to use lower alkyl citrates and uses in example 16 diethyl citrate. Tributyl citrate has however a higher alkyl than triethyl citrate or diethyl citrate.
So even if the skilled person would combine the teaching of D2 with D30, there is no reason for the skilled person to choose a tributyl citrate which is a higher alkyl than the one disclosed in example 16.

4.5.4 To conclude, starting from D2, at least the selection of the tributyl citrate as an alternative solvent is not obvious for the skilled person.

5. Inventive step starting from D1 or from D21

The subject-matter of claim 1 involves an inventive step starting from D1 or D21.

The same reasoning applies starting from document D1 or from document D21. D1 and D21 teaches that esters in general may be used and that triethyl citrate is one possible ester. However, neither D1 nor D21 disclose the specific tributyl citrate compound and as noted above none of the cited document provide such a disclosure. Similarly as when starting from D2, it is not obvious for the skilled person to select tributyl citrate as an alternative solvent.

6. Substantial procedural violation - Reimbursement of the appeal fee requested by appellant 2

The appeal fee of appellant 2 is not to be reimbursed.

6.1 Appellant 2 (opponent 2) submitted that a substantial procedural violation occurred in the Opposition Division's consideration of Article 84 EPC with regard to the amendment of the description to conform with the amended claims of auxiliary request 4A (auxiliary request 3A in opposition proceedings). This violation was noted by the opponents at the hearing held in November 2021 and was minuted by the Opposition Division.

During oral proceedings in opposition, the chair enquired whether there were any other objections or requests and then formally announced the decision to maintain the patent. It was understood by both of the opponents and it would also seem by the proprietor (see point 74 of the minutes) that the chair was specifically referring to objections or requests in respect of the claim set of auxiliary request 4A (corresponding to auxiliary request 3A in opposition proceedings), rather than the description. The parties

were given the impression that the amendment of the description was to be dealt with as a separate issue. However, the chair denied requests to enter a discussion concerning compliance with Article 84 EPC in view of contradictions between the descriptive portion of the specification and the maintained claims of auxiliary request 4A (corresponding to auxiliary request 3A in opposition proceedings). After a break the Opposition Division advised that it "can and will not" allow amendment of the description.

The contradiction between the amended claims of auxiliary request 4A (corresponding to auxiliary request 3A in opposition) resulted in a contravention of Article 84 EPC since the scope of the protection could not be clearly determined. For example, it could not be determined whether the claims still encompassed triethyl citrate which was frequently referred to in the description but which was no longer explicitly the subject-matter of claim 1. Furthermore, the refusal of the Opposition Division to give the opponents the opportunity to present arguments on this issue resulted in the maintenance of a patent that should otherwise be revoked for contravention of Article 84 EPC. Consequently, the test for a substantial procedural violation having occurred was met and reimbursement of the appeal fee was justified.

6.2 Appellant 3 (patent proprietor) submitted that there was no substantive procedure violation during the oral proceedings in first instance. Paragraph 73 of the minutes of the oral proceedings made it clear that the opponents were given the opportunity to present any final requests or objections that they might have. The opponents should have seized this opportunity to mention that they had objections under Article 84 EPC

concerning the description. As they did not do so in due time and as the final decision was then announced orally, the Opposition Division was no longer in a position to address these objections.

Furthermore, appellant 3 submitted that no provision of the EPC required the adaptation of the description to the subject-matter as claimed, as held in the decision T1989/18 and T1444/20. However, appellant 3 expressly reserved the right to file an amended version of the description if an adaptation of the description was indeed held to be necessary by the Board.

6.3 The Board notes that in order to render the reimbursement of the appeal fee equitable, as a rule a causal link must exist between the alleged procedural violation and the decision of the department of first instance that necessitated the filing of an appeal.

In the present case, auxiliary request 4A (auxiliary request 3A in opposition proceedings) was found to be admissible and allowable by the Opposition Division. The fact that the Opposition Division did not consider the request of appellants 1 and 2 (opponents 1 and 2) to amend the description to bring it in conformity with the claims is not linked to the appeal of appellants 1 and 2, who would of have had to file their appeal irrespective of the issue of the adaptation of the description. Therefore, regardless of whether a substantive procedure violation took place or not, the Board deems that reimbursement of the appeal fee of appellant 2 is not equitable.

6.3.1 As to the adaptation of the description, the Board judges necessary to amend the description to bring it in conformity with the claim. As pointed out by the

appellants 1 and 2, a number of inconsistencies between the descriptions and the claims are present such as in paragraph [0012], where "triethyl citrate" is cited as a stabilizer of the invention.

The Board does not follow decisions T 1989/18 and T 1444/20 for the reasons given in decision T 1024/18 (reasons, point 3; see also decisions T 121/20, T 2293/18, T 2766/17 and T 1516/20). Indeed, while the claims need to be clear in themselves, Article 84 EPC requires that the claims be supported by the description. This means that any inconsistencies between the claims and those parts of the description disclosing ways to carry out the invention need to be removed.

6.3.2 The Board considers that the case is to be remitted to the Opposition Division for the description to be adapted to the claims of auxiliary request 4A found allowable. Appellant 3 had expressed its preference to adapt the description during oral proceedings in front of the Board; however, none of the parties had fully considered the amendments to be made. Under these circumstances, and considering that the description is to be carefully scrutinized for inconsistencies, the Board finds it more appropriate to remit the case to the Opposition Division for adapting the description to claims 1-4 of auxiliary request 4A.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain the patent on the basis of claims 1-4 of the auxiliary request 4A filed with the statement of the grounds of appeal and a description to be adapted.

3. The request for reimbursement of the appeal fee is rejected.

The Registrar: The Chairman:

H. Jenney G. Pricolo

Decision electronically authenticated