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Datasheet for the decision of 15 April 2025

Case Number: T 2009/23 - 3.3.03

Application Number: 16750615.3

Publication Number: 3331921

IPC: C08B37/00, A61K31/733

Language of the proceedings: EN

Title of invention:
INULIN PRODUCT

Patent Proprietor:
Tiense Suikerraffinaderij N.V.

Opponent:
Cosucra Groupe Warcoing S.A.

Relevant legal provisions:
RPBA 2020 Art. 12(4), 12(6), 13(1), 13(2)
EPC Art. 83

Keyword:
New experimental evidence and claim request submitted with the statement of grounds - admitted (yes)
New evidence submitted afer the Board's provisional opinion - admitted (no)
Sufficiency of disclosure (no) - absence of reliable method to determine parameter

Decisions cited:
T 0608/07, T 0593/09, T 2403/11, T 1845/14

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Case Number: T 2009/23 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 15 April 2025

Appellant: (Patent Proprietor)	Tiense Suikerraffinaderij N.V. Aandorenstraat, 1 3300 Tienen (BE)
Representative:	Koster, Nico Tiense Suikerraffinaderij N.V. Patent Department Aandorenstraat 1 3300 Tienen (BE)
Respondent: (Opponent)	Cosucra Groupe Warcoing S.A. 1 Rue de la Sucrerie 7740 Warcoing (BE)
Representative:	De Clercq & Partners Edgard Gevaertdreef 10a 9830 Sint-Martens-Latem (BE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 6 November 2023 revoking European patent No. 3331921 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	D. Semino
Members:	F. Rousseau
	A. Bacchin

Summary of Facts and Submissions

I. The present appeal lies against the decision of the opposition division revoking European patent No. 3 331 921. The decision was based on the patent as granted as the main request and auxiliary request I to VII submitted with letter of 6 October 2022.

II. The following documentary evidence was among others submitted before the opposition division:

D4: Joye & Hoebregs, Determination of Oligofructose, a Soluble Dietary Fiber, by High-Temperature Capillary Gas Chromatography, J. AOAC International, Vol. 83, No.4, 2000, pages 1020-1026
D5: WO 99/37686 A1
D9: "Evaluation inulin in yogurt", experimental data by the opponent dated 25 February 2022
D10: Van Loo *et al*, On the Presence of Inulin and Oligofructose as Natural Ingredients in the Western Diet, Critical reviews in Food Science and Nutrition, 35(6), 1995, pages 525-552.

III. According to the reasons for the contested decision, the subject-matter of claims 1 and 7 of all claim requests was characterized by an amount of chains of fructose units with a terminal glucose of formula GF_n with $n \geq 10$ which could not be measured. On that basis, none of the requests on file was considered to fulfil the requirements of sufficiency of disclosure and the patent was for this reason revoked.

IV. An appeal was filed by the patent proprietor (appellant). With its statement of grounds of appeal, the appellant requested as their main request that the patent be maintained in the form as granted, or in the alternative on the basis of one of auxiliary requests I to IX, submitted therewith. The appellant also submitted the following document:

D23: Experimental results entitled "Experimental Report".

V. With the reply to the statement of grounds of appeal the opponent (respondent) submitted the following document:

D24: Experimental results entitled "Hydrolysis of inulin results in substantial amount of Fm with m≥11".

VI. In preparation of the oral proceedings, a communication pursuant to Article 15(1) RPBA conveying the Board's provisional opinion was issued.

VII. In reply to the Board's communication, the appellant submitted the following document:

D25: L. De Leenheer, "Production and use of inulin: Industrial reality with a promising future", Carbohydrates as Organic Raw Materials III, 1996, pages 67-92.

VIII. Oral proceedings before the Board were held on 15 April 2025 by videoconference with the participation of both parties. During the oral proceedings the appellant withdrew their main request, as well as auxiliary requests I to VIII.

IX. The final requests of the parties were as follows:

The appellant requested that the decision under appeal be set aside and the case be remitted to the opposition division for further prosecution on the basis of auxiliary requests IX, submitted with the statement of grounds of appeal, should the request be found to meet the requirements of sufficiency.

The respondent requested that the appeal be dismissed. The respondent further requested not to admit auxiliary request IX and, should it be admitted into the appeal proceedings and found to meet the requirement of sufficiency of disclosure, that the case be remitted to the opposition division.

X. Claim 1 of auxiliary request IX reads as follows:

"1. Process for the preparation of an inulin product, comprising:
• a preparatory step, wherein an inulin raw material is brought into aqueous solution to form an inulin solution, whereby the inulin raw material has a value of factor L below 2.0 and whereby the inulin raw material contains between 8 and 75 wt.% of GF_n compounds wherein n is 10 or greater;
• a conversion step, wherein a hydrolysis of the inulin raw material in the inulin solution is executed, such that the inulin product is formed;
wherein the inulin product is polydisperse and has a factor L, defined as a ratio S/D, wherein:
• S equals the sum of the compounds GF_2, F_3, and F_4 in the inulin product, expressed in wt.% on total carbohydrates;
• D equals $[(F_i/G_i) +1]$, wherein Fi is the amount of inulin-related fructose in the inulin product, G_i is

the amount of inulin-related glucose in the inulin product, whereby F_i and G_i are expressed in wt.% on total carbohydrates,
characterised in that the value of L lies between 2.20 and 3.0 and wherein between 3 and 20 wt.% on total carbohydrates of the inulin product consists of:
• GF_n compounds wherein n is 10 or greater,
whereby the inulin product contains at most 30 wt.% on total carbohydrates of non-inulin carbohydrates such as free glucose, free fructose, and sucrose; and
wherein the conversion step is an enzymatic conversion by means of an endo-inulinase; and
wherein the inulin raw material is a native chicory inulin."

XI. The parties' submissions, in so far as they are pertinent to the present decision, may be derived from the reasons for the decision below. The contentious point essentially concerned the admittance of auxiliary request IX, the admittance of documents D23 and D25 into the proceedings and the question whether in order to carry out the invention, the skilled person could determine the amount of $GF_{n\geq10}$ in the hydrolysed inulin, in particular whether for this purpose the $F_{m\geq11}$ fraction was negligible, so that the measured amount of compounds having a DP of at least 11 amounted to a measure of the amount of $GF_{n\geq10}$.

Reasons for the Decision

Preliminary remarks

1. Inulin is a polydisperse carbohydrate oligomer or polymer consisting mainly of fructosyl-fructose links

with optionally a glucose starting unit (patent in suit, paragraph [0008]).

Glucose units and fructose units are referred to as "G" and "F", respectively. Thus, sucrose can be represented as "GF" (patent in suit, paragraph [0010]). Individual inulin compounds are represented as "GF_n" or as "F_m" whereby n and m are integers having a value of 2 or higher (paragraph [0010]).

Inulin compounds having a degree of polymerisation (DP) ranging from 2 to 10 are defined as oligofructoses (patent in suit, paragraph [0009]).

GF_n compounds with $n \geq 10$ and F_m compounds with $m \geq 11$ are hereafter referred to as $GF_{n \geq 10}$ and $F_{m \geq 11}$, respectively.

Admittance of document D23

2. D23 is an experimental report submitted by the appellant with the statement of grounds of appeal. Its filing is undisputedly an amendment to the appellant's case, whose admittance is at the Board's discretion pursuant to Article 12(4) RBPA. According to Article 12(6) RPBA, the Board shall not admit requests, facts, objections or 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.

2.1 D23 is indicated to be submitted in response to the respondent's argument that the amount of $F_{m \geq 11}$ obtained following an enzymatic hydrolysis is significant (statement of grounds of appeal, page 16, section 39).

D23 concerns the characterization of the products formed by the enzymatic hydrolysis of an inulin raw material (Orafti HP with an average DO of minimum 23) using endo-inulase enzymes, i.e. a hydrolysis acting on internal linkage between D-fructose units leading to various F_m and GF_n products. An analysis of the composition in terms of oligofructoses (DP2 to DP10), as well as F, G and saccharose is reported in Tables A and B and Figures 1 and 2. D23 is alleged to demonstrate that "no or substantially no formation" of $F_{m\geq11}$ occurs when an inulin raw material is enzymatically hydrolysed using an endo-inulinase (statement of grounds of appeal, pages 17 and 18, section 43).

2.2 It is apparent that D23 was submitted in response to the emphasis put by the respondent in its submissions of 24 August 2023, i.e. just within the final date for making written submissions in preparation for the oral proceedings in accordance with Rule 116(1) EPC, on the difficulty to determine the amount of $GF_{n\geq10}$ due to the alleged increase of the proportion of $F_{m\geq11}$ resulting from the action of endo-inulinases (pages 2 to 4, sections 2.5 to 2.7 and last sentence of section 2.13). This element of the respondent reasoning, which was absent from the notice of opposition, played a primordial role in the opposition division's reasoning, as shown in section II.1.2 (penultimate sentence) of the contested decision.

2.3 On that basis and considering that the filing of additional experimental evidence did not only require an adequate amount of time, but constitutes a *bona fide* answer to counter the submissions of the respondent in their letter of 24 August 2023, the Board takes the view that D23 filed at the outset of the appeal

proceedings, and thus at the appellant's earliest opportunity, is as a matter of fairness to be admitted into the proceedings (Article 12(4) RPBA).

Under these circumstances, whether D23 could indeed support the appellant's view that for a skilled person practically no $F_{m\geq 11}$ is formed when an inulin raw material is enzymatically hydrolysed, which is questioned by the respondent, is not a procedural, but a substantive matter, which is only to be taken into account when assessing sufficiency of disclosure of the claimed product.

Admittance of Auxiliary request IX

3. Auxiliary request IX is a new claim request filed with the statement of grounds of appeal. It is therefore to be regarded as an amendment to the appellant's case, whose admittance to the proceedings, contested by the respondent, is also subject to the discretionary power of the Board in accordance with Article 12, paragraphs (4) to (6) RPBA.

3.1 It is undisputed that the subject-matter of claim 1 of auxiliary request IX corresponds to that of the process of claim 7 of the main request pending before the opposition division (granted patent), which referred to claim 1 for the definition of the inulin product, in which additionally the conversion step is defined to be an enzymatic conversion by means of an endo-inulinase and the inulin raw material is a native chicory inulin.

While both claims of that main request were discussed before the opposition division, these two additional features comprised in auxiliary request IX merely reflect the technical context addressed by the

respondent shortly before the oral proceedings (respondent's letter of letter of 24 August 2023, sections 2.3, 2.5, 2.12 and 2.17) and which was key to the opposition division's reasons for revoking the patent on the ground of lack of sufficiency of disclosure.

3.2 On that basis and analogously to the reasons for admitting D23 (see above points 2 to 2.3), the Board finds that the filing of auxiliary request IX at the outset of the appeal proceedings was justified by the need to counter the respondent's submissions made shortly before the oral proceedings. The Board thus exercised its discretion under Article 12(4) RPBA by also admitting auxiliary request IX into the proceedings (Articles 12(4) RPBA).

Admittance of D25

4. The admittance of document D25 submitted by the appellant with letter of 10 April 2025 after notification of the Board's communication under Article 15 (1) RPBA is regulated by the provisions of Article 13 (2) RPBA. According to this provision, any amendment to a party's appeal case made after a communication by the Board under Article 15(1) RPBA is, in principle, not taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned. If the party shows that there are exceptional circumstances for filing an amendment at such a late stage in the proceedings, the Board, in the exercise of its discretion under Article 13(2) RPBA, may also rely on criteria applicable under Article 13(1) RPBA (supplementary publication 1, OJ EPO 2020, Annex 2, explanatory notes to Article 13(2) RPBA). According to Article 13(1) RPBA the Board shall

exercise its discretion in view of, *inter alia*, the suitability of the amendment to resolve the issues which were admissibly raised by another party in the appeal proceedings or which were raised by the Board.

D25 is indicated by the appellant to be referred to on page 2, lines 8-10 of D5. It is alleged to confirm the common general knowledge that oligosaccharides of the type F_m would be only present in small amounts in native inulin, reference being made to the second paragraph of the summary of D25. The appellant relies on an alleged *prima facie* relevance of D25 in support of its admittance (appellant's letter of 10 April 2025, last paragraph on page 1).

However *prima facie* relevance is not *per se* a criterion for admittance in appeal proceedings, not does it constitute exceptional circumstances within the meaning of Article 13(2) RPBA. Even if exceptional circumstances were given, document D25 does not appear suitable to solve the issues at stake, so that admittance would also not be justified under the criteria of Article 13(1) RPBA. The information provided in the passage of D5 cited by the appellant concerns only native inulins being indicated there to have a F_m fraction which is considered to be negligible. D25, as noted by the respondent, also concerns the proportion of F_m present in native inulins. However, D25 does not concern the proportion of $F_{m\geq 11}$ present in a product resulting from the partial, i.e. controlled, hydrolysis of native inulins. This was not contested by the appellant. D25 is therefore not suitable to resolve the issue raised by the respondent before the opposition division and maintained in the appeal proceedings that the proportion of $F_{m\geq 11}$ relative to the amount of $GF_{n\geq 10}$, as

a result of the action of endo-inulinases, has not been shown to be negligible. In these circumstances and already in view of the criterion mentioned in Article 13(1), fourth sentence, RPBA, the Board found it appropriate to exercise its discretion under Article 13(2) RPBA by not admitting D25 into the proceedings.

Sufficiency of disclosure

5. According to the established jurisprudence of the Boards of Appeal of the EPO a European patent complies with the requirements of sufficiency of disclosure, if a skilled person, on the basis of the information provided in the patent specification and, if necessary, using common general knowledge, is able to carry out the invention as claimed in its whole extent without undue burden, i.e. with reasonable effort. It means in the present case the ability for the skilled person to carry out a process as defined in operative claim 1.

The process of operative claim 1 corresponds to that of granted claim 7, in which the conversion step is specified to be an enzymatic conversion by means of an endo-inulinase, used being made for the inulin raw material of a native chicory inulin. The product obtained is required to have a L value in the range of from 2.20 to 3.0, while achieving an amount of $GF_{n\geq10}$ comprised between 3 and 20 wt.% on the total carbohydrates of the inulin product. Such a process undisputedly requires therefore a partial and controlled hydrolysis of the initial inulin product which must be stopped when a product with the desired properties is obtained. This is reflected in paragraph [0030] of the specification in which it is stated that "*the required intensity of the hydrolysis in the conversion step is different, namely lower, compared to*

a hydrolysis that has as target to prepare an oligofructose from an inulin raw material".

The need to control the hydrolysis of the inulin raw material requires that the skilled person has at their disposal an adequate method for analysing the hydrolysed product, in particular with respect to the amount of $GF_{n\geq10}$ which constitutes one of the features characterizing the hydrolysed product obtained by the process of operative claim 1.

In this regard, the opposition division decided that the claimed invention lacked sufficiency of disclosure, because the subject-matter of all requests was characterized by an amount of $GF_{n\geq10}$ which could not be measured (section II.1.3, penultimate sentence). This line of argumentation which is pursued by the respondent in respect of auxiliary request IX is contested by the appellant.

5.1 The appellant acknowledges on this matter that the specification does not describe a method for measuring the amount of $GF_{n\geq10}$ as such (statement of grounds of appeal, page 8, section 14).

In fact the sole reference to a method disclosed in connection with an amount of $GF_{n\geq10}$ compounds is to be found in the example of the specification, wherein amounts of compounds $GF_{n\geq10}$ and/or $F_{m\geq11}$ (emphasis added by the Board) are disclosed for both the native inulin from chicory root used as the inulin raw material and the product resulting from the enzymatic hydrolysis in paragraphs [0034] and [0036], respectively.

5.2 The appellant also does not allege that the compounds having a DP of 11 or higher comprised in native inulin

or in partially hydrolysed product obtained therefrom by action of an endo-inulinase would be considered by the skilled person to consist of $GF_{n\geq10}$ compounds only. The appellant rather agrees with the respondent that for the skilled person compounds having a DP of 11 or higher, both in native inulin and in partially hydrolysed products obtained therefrom by action of an endo-inulinase, will comprise not only $GF_{n\geq10}$, but also $F_{m\geq11}$.

5.3 The parties are also in agreement that the skilled person would be aware that for both the native inulin and the partially hydrolysed product thereof the amount of compounds having a DP of 11 or higher, i.e. the amount of the mixture of compounds $GF_{n\geq10}$ and $F_{m\geq11}$ can be determined by (i) high-temperature capillary gas chromatography (HGC), or (ii) by high pressure anion exchange chromatography in pulsed amperometric detection mode (HPAEC-PAD).

The HGC method is the method referred to in paragraph [0012] of the specification for determining the amount of compounds GF_2, F_3, and F_4 required by operative claim 1. It is defined in this paragraph [0012] by reference to document D4 in the present proceedings (correctly filed by the respondent with submissions of 24 March 2025, upon invitation by the Board). This method described in D4 is abbreviated therein as high temperature CGC (page 1020, title, summary, right column, first paragraph; page 1022, Table 2; page 1025, right column, second paragraph). The CGC method is used in D10 to characterize native chicory inulin and the partial inulin hydrolysate Raftilose® (page 526, section 3; pages 528 and 529, section III.A.1.a).

The HPAEC-PAD method, also mentioned in D4 (page 1020, left-hand column, third paragraph) is used in D10 for characterizing inulin and oligofructose, i.e. compounds with DP from 2 to 20 (D10, page 525, introduction, first sentence; page 529, right column, section III.A. 1.b and page 535, Figure 5).

5.4 Moreover, the appellant does not dispute that these two methods do not separate the GF_n from the F_m fractions over the complete DP range, but accepts that a distinction can be made only in the lower DP region.

As regards the HGC method, it is referred to D10, page 526, section B.3, first sentence, according to which every component in the range DP2 to DP10 can be quantitatively determined by means of CGC (a synonym for HGC, see above point 5.3, second paragraph), whereas the results in Table 1 (D10, page 529) show that only the peaks GF_n and F_m with a DP of up to 9 could be separately quantified, the integrated values of DP10 to DP12 being indicated to be not reliable in view of the significant baseline shift (D10, page 529, left column, first full paragraph).

Concerning the HPAEC-PAD method, it is pointed out in section III.A.1.b, page 529, right column, second sentence that this "*technique is a tool that has proven to be useful in characterizing inulin. It separates every DP fraction of inulin into single peaks, but does not separate the GF_n from the F_m fractions over the complete DP range; only in the lower DP region can a distinction be made*".

5.5 The considerations in above points 5.2 to 5.4 are consistent with the indication in paragraph [0036] of the patent in suit that the product resulting of the

enzymatic hydrolysis was determined using HGC, meaning that the indication of an amount of compounds $GF_{n\geq10}$ and/or $F_{m\geq11}$ being 15.9 wt.% (column 7, first and second lines) is understood by the skilled person as to refer to the amount of $GF_{n\geq10}$ and $F_{m\geq11}$.

5.6 The point in dispute between the parties is whether, as contended by the appellant, the skilled person would understand that the amount of compounds having a DP of 11 or higher (i.e. $GF_{n\geq10}$ and $F_{m\geq11}$) equates with the amount of $GF_{n\geq10}$.

In the respect, it is undisputed that the patent in suit does not provide any indication that the amount of $F_{m\geq11}$ should be considered to be negligible compared to that of $GF_{n\geq10}$.

The appellant, however, submits that this would be common general knowledge, not only for native inulin, but also for the partially hydrolysed product obtained therefrom by action of an endo-inulinase. Evidence for this common general knowledge would be shown with D5 and D23. In this regard, the appellant also brought forward during the oral proceedings that it would be also common general knowledge that the commercially available endo-inulinase would only result in the generation of short F_m chains.

This is not convincing.

5.6.1 Concerning D5, the passage on page 2, lines 3-4 cited by the appellant reads "*as in native inulins the Fm fraction is to be considered as negligible*". Whether or not this reflects common general knowledge, because it would, in the appellant's view, refer to a passage of a textbook, is not relevant for addressing the issue at

stake, i.e. the amount of the Fm fraction in partially hydrolysed inulins by action of an endo-inulinase. This is because the amount of Fm addressed in D5 only concern native inulins, whereby native inulin is expressly defined therein (page 2, lines 16-20) to refer to inulin that had been extracted from plants without applying any process modifying its degree of polymerisation, hydrolysis being explicitly mentioned.

5.6.2 As regards the appellant's argument that it would be also common general knowledge that the commercially available endo-inulinase would only result in the generation of short F_m chains, this argument is a mere allegation not supported by any evidence which for this reason cannot convince the Board.

5.6.3 Regarding D23, as already indicated in respect of its admittance into the proceedings (see above point 2.3), this document is a report based on experiments carried out after the filing of the patent in suit. Accordingly, the experiments reported therein cannot be part of the common general knowledge at the date of filing of the patent in suit.

5.6.4 Even if to the benefit of the appellant, it were considered that the experiments of D23 could have been carried out by a skilled person prior to the date of filing of the application, in order to assess whether the amount of $F_{m\geq 11}$ should be considered to be negligible compared to that of $GF_{n\geq 10}$ for partially hydrolysed inulins by action of an endo-inulinase, it must be concluded that the results shown in this report would not have permitted a firm conclusion to be drawn for the following reasons:

D23 concerns the characterization of the products formed by the enzymatic hydrolysis of the inulin material (Orafti HP with an average DP of minimum 23) using endo-inulase enzymes, i.e. a hydrolysis acting on internal linkage between D-fructose units, leading to various F_m and GF_n products.

The tests were performed with the two endo-inulinases commonly available (Novozymes 960 and Oligofructase 3000). The samples were analysed using the HGC method, i.e. a method which gives information only in respect of oligofructose with a DP of 2 to 10 (see point 5.4 above). An analysis of the hydrolysed products in terms of F, G, Saccharose and oligofructoses F_m and GF_m (for m comprised between 2 and 9) and DP10 is reported in Tables A and B and Figures 1 and 2.

Accordingly, D23 which does not contain a measurement of products having a DP of at least 11 cannot directly demonstrate that the amount of $F_{m\geq 11}$ is negligible compared to that of $GF_{n\geq 10}$.

The appellant contends that it can be deduced from the amounts of hydrolysed product reported that both endo-inulinases preferentially "splice-off" terminal F3 and F4 oligosaccharide-units from the inulin chains and that less formation of F5 and F6 oligosaccharide-units and practically no formation of F8 units occurs throughout the whole reaction time. On that basis, the appellant submits that the endo-inulinases show a decreasing preference for "splicing-off" terminal oligofructose units with increasing length (D23, section 2).

The results on which the appellant bases their conclusion, however, does not necessarily imply that no

or only little formation of $F_{m\geq11}$ takes place. The formation of GF_3, GF_4, GF_5 and GF_6, and to a lesser extent GF_7 and GF_8, oligosaccarides is also already observed at an early stage of the hydrolysis, meaning that their appearance at this stage of the reaction could as well correlate with the formation of additional $F_{m\geq11}$ by the endo-splitting of longer chains of $GF_{n\geq10}$ present in the starting product to be hydrolysed.

On that basis, the experiments reported in D23 even if they had been performed by the skilled person prior to the date of filing of the patent in suit could not have unambiguously revealed that practically no or only little $F_{m\geq11}$ would be formed during the enzymatic hydrolysis of a native inulin material with endo-inulinases.

5.6.5 Summing up, it cannot be considered that the skilled person would have been aware at the date of filing of the patent in suit that the partially hydrolysed product obtained from native inulin by action of an endo-inulinase would contain $F_{m\geq11}$ in a negligible amount compared to the amount of $GF_{n\geq10}$. On that basis, it has not been shown that the skilled person would have been aware that for the hydrolysed product of operative claim 1 the amount of $F_{m\geq11}$ and $GF_{n\geq10}$ determined by HGC or HPAEC-PAC equated with that of $GF_{n\geq10}$.

5.6.6 The appellant also argued in writing in relation to the experiments reported in the Table on page 2 of D9 that it was indicated at the bottom of said table that the amount of the measured DP≥11 fraction contained $GF_{n\geq10}$ and small amounts of $F_{m\geq11}$ (statement of grounds of appeal, page 14, section 31 and appellant's letter of

11 October 2024, page 2, last paragraph; page 3, section 4). Even if, to the benefit of the appellant, it was to be understood that the respondent was of the opinion when filing the notice opposition that $F_{m\geq11}$ were present in an amount which was negligible compared to that of $GF_{n\geq10}$, this opinion was revised before the oral proceedings before the opposition division, as shown with the respondent's submissions filed with letter of 24 August 2023. In any event, the total amount of $GF_{n\geq10}$ and $F_{m\geq11}$ which is indicated in D9 is given without any indication as to a quantitative amount for each of these species.

5.6.7 In summary, the evidence relied upon by the appellant does not demonstrate that for a partially hydrolysed native chicory inulin, obtained by action of an endo-inulinase and having a L value in the range of from 2.20 to 3.0 and a content of $GF_{n\geq10}$ comprised between 3 and 20 wt.% on the total carbohydrates of the inulin product, the content of $F_{m\geq11}$ is necessarily negligible compared to that of $GF_{n\geq10}$. On that basis and considering that the sole methods which are available to the skilled person are those which measure an amount of compounds having a DP of 11 or higher, i.e. $GF_{n\geq10}$ and $F_{m\geq11}$, the skilled person analysing a sample of a native chicory inulin at various intervals during its hydrolysis would not be able to determine when the amount of $GF_{n\geq10}$ required by the terms of operative claim 1 has been obtained.

This means that the skilled person would be left in the dark as to when to stop the hydrolysis reaction in order to adjust the amount of $GF_{n\geq10}$ over the entire breadth of claim 1.

5.7 The appellant submits in addition that the present issue of sufficiency of disclosure which hinges on whether the amount of $F_{m\geq11}$ is negligible is a question about the accuracy of the measuring method and therefore a hidden objection of lack of clarity of claim 1. The appellant submits that in such case, for concluding an insufficiency arising out of ambiguity, it is not enough to show that an ambiguity exists, e.g. at the edges of the claims, but it will normally be necessary to show that the ambiguity deprives the person skilled in the art of the promise of the invention. It is referred to decision T 608/07 and criteria developed in this respect in decisions T 593/09 and T 2403/11 (statement of grounds of appeal, sections 19 to 27 and 33 to 35). Even if the commonly applied measuring method were to result in a slightly different values for $GF_{n\geq10}$, due to the assumption of $F_{m\geq11}$ being negligible, this would at most give rise to an objection under Article 84 EPC, which is not open for examination in opposition and opposition appeal proceedings (statement of grounds of appeal, section 6 on page 6, last sentence).

This is not convincing.

5.7.1 Firstly, the argument that the values are slightly different so that the amount of $F_{m\geq11}$ can be neglected presupposes that the proportion of $GF_{n\geq10}$ and $F_{m\geq11}$ can be reasonably estimated in the context of hydrolysed products of the type defined in operative claim 1. There is, however, no evidence on file that this would be the case and known to the skilled person (see above points 5.6.1 to 5.6.5 above).

5.7.2 Secondly, the decisions invoked by the appellant concern a claim defined by an unclear parameter, for

which numeral values, also defined in the claim, are indicated in the specification to be essential to solving the problem underlying the patent at issue. The rationale underlying those decisions is that the lack of clarity of the parameter defined in the claim is due to the absence of measuring conditions, so that applying various measuring conditions while meeting the parametric values defined in the claim might have an impact on whether the problem underlying the patent at issue is solved or not. The Board for the reasons provided in decision T 1845/14 (see points 8.7 to 9.8 of the Reasons for the decision) does not agree that the ability of the skilled person to solve the problem underlying the patent at issue is a suitable criterion for assessing sufficiency of disclosure, when the problem or an effect derivable from it are not explicitly or implicitly part of the definition of the claimed subject-matter. Already on that basis, the arguments based on decisions T 608/07, T 593/09 and T 2403/11 are not convincing.

5.7.3 Moreover, while the amount of $GF_{n\geq10}$ is a structural feature whose meaning is clear and therefore not an unclear parameter, measuring a parameter defined in a claim, i.e. in the present case determining the amount of $GF_{n\geq10}$ in order to put into practice the present invention, requires that the skilled person has at their disposal an adequate, i.e. reliable measuring method to verify whether the product sought to be obtained has been indeed produced. If not, the skilled person cannot put into practice the claimed invention.

In this respect, the absence of a reliable measuring method has to be differentiated from the absence of indication for measuring conditions of a reliable method. The absence of a definition for measuring

conditions for a reliable method does not necessarily means that the invention cannot be put into practice. In such a case, the question to be answered is whether taking the measuring conditions which are conventional in the art for said reliable method, the skilled person is still able to prepare what is claimed taking into consideration that various usual measuring conditions might influence the parametric values measured and therefore the definition of the product to be prepared. Instead in the present case, at the date of filing no reliable measuring method was available for the skilled person to determine when the amount of $GF_{n\geq10}$ required by the terms of operative claim 1 has been obtained.

5.8 Under these conditions, it is concluded that the skilled person is not in the position to prepare the product of claim 1 of auxiliary request IX over its whole breadth.

5.9 Accordingly, the patent in suit does not disclose the process of operative claim 1 in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. For this reason, the sole request on file is not allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Hampe D. Semino

Decision electronically authenticated