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**Datasheet for the decision  
of 31 January 2025**

**Case Number:** T 0583/23 - 3.3.09

**Application Number:** 13770671.9

**Publication Number:** 2900070

**IPC:** A23L3/3454, A23L5/10,  
A23L27/27, A21B1/48, A23B4/052

**Language of the proceedings:** EN

**Title of invention:**  
USE OF A SMOKE CONDENSATE FOR BROWNING AND SMOKING FOOD

**Patent Proprietor:**  
GEA Food Solutions Bakel B.V.

**Opponent:**  
Marel Further Processing B.V.

**Headword:**  
Smoke condensate/GEA

**Relevant legal provisions:**  
EPC Art. 100(b), 111(1)  
RPBA 2020 Art. 11

**Keyword:**

Grounds for opposition - insufficiency of disclosure (no)  
Claims - board's interpretation deviating from the  
interpretation adopted by both parties

**Decisions cited:**

T 0107/14, T 0303/20, G 0001/03



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**Case Number: T 0583/23 - 3.3.09**

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.09**  
**of 31 January 2025**

**Appellant:** GEA Food Solutions Bakel B.V.  
(Patent Proprietor) Beekakker 11  
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**Representative:** Kutzenberger Wolff & Partner  
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**Respondent:** Marel Further Processing B.V.  
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**Representative:** EP&C  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 4 January 2023  
revoking European patent No. 2900070 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman** A. Haderlein  
**Members:** C. Meiners  
R. Romandini

## Summary of Facts and Submissions

- I. This decision concerns the appeal filed by the patent proprietor (appellant) against the opposition division's decision to revoke the European patent.
- II. In its notice of opposition, the opponent had requested that the patent be revoked on the basis of, *inter alia*, Article 100(b) EPC.
- III. In its decision, the opposition division decided *inter alia* that the patent did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. Hence the ground for opposition under Article 100(b) EPC prejudiced maintenance of the patent as granted. This applied equally to the auxiliary claim requests 1 to 3 on file. Auxiliary requests 2 and 3 filed during the oral proceedings before the opposition division were not admitted into the proceedings.
- IV. The following documents are relevant to this decision:
- D2 US 6,074,679 A
- D18 US 2005/0175746 A1
- D20 Presentation by Red Arrow on 'Natural Wood Smoke Technologies' (2009), internet, [https://meatscience.org/docs/default-source/publications-resources/rmc/2009/amsa-rmc-2009-ron-jenkins-\(1\).pdf?sfvrsn=0](https://meatscience.org/docs/default-source/publications-resources/rmc/2009/amsa-rmc-2009-ron-jenkins-(1).pdf?sfvrsn=0)
- D21 European Food Safety Authority Journal (2009) 1225, 1-28, <https://efsa.onlinelibrary.wiley.com/doi/pdf/10.2903/j.efsa.2009.1091>

V. *Wording of the relevant claims*

Claim 1 as granted (main request) reads:

"Use of a smoke condensate for browning and smoking a protein-containing food, the smoke condensate comprising:

Phenols: 0,1- 0,56 %

Carbonyls: 3,5 - 13,0 %

Polysorbate: 0 - 2,25 %

and the rest water,  
wherein the smoke condensate is atomized and  
ejected into an air flow which is circulated in one  
chamber of an oven,  
wherein the air flow has a temperature of 100 - 200  
°C."

Claim 2 as granted reads:

"Use according to claim 1, **characterized in, that** the  
ph-value is between 2,0 and 3,5."

Claim 3 as granted reads:

"Use according to one of claims 1 or 2, **characterized  
in, that,** at least essentially, the smoke condensate  
does not comprise solid-particles like ash- and/or tar-  
particles."

VI. The appellant's arguments relevant to the present  
decision can be summarised as follows:

Claim 1 as granted excluded the presence of compounds  
other than those explicitly referred to. Still, the  
invention as granted was sufficiently disclosed. The

feature of the low pH range in claim 2 was merely a preferred one.

Furthermore, acids could be removed from smoke condensate. This technique was well-known to a skilled person. Just as an example, document D18 disclosed methods for influencing the amounts of carbonyls, phenols and/or acids in liquid smoke in paragraph [0028]. Likewise, paragraph [0027] of D18 described a derivative of liquid smoke comprising 0% of titratable acidity. Neutralising agents could be used to adjust the pH of liquid smoke condensates, and the neutralised acid components could easily be removed from the aqueous compositions by standard methods.

In line with this finding, the patent used a smoke condensate without acids in order to avoid contamination of the oven.

Hence the ground for opposition under Article 100(b) EPC did not prejudice maintenance of the patent.

VII. The opponent's (respondent's) arguments relevant to the present decision can be summarised as follows:

(a) Closed composition

The smoke condensate as specified in claim 1 as granted could only contain the explicitly mentioned components since the wording "and the rest water" gave rise to a closed formulation thereof. This had not been contested by the appellant.

Acids, however, invariably formed in liquid smoke during the pyrolysis of the starting material. The concentrations and types of acids varied according

to the process. This had not been contested by the appellant either.

With claim 2 as granted being dependent on claim 1, the scope of claim 1 had to include a smoke condensate having a low pH. It was irrelevant whether or not this was explicitly claimed.

By definition, an acidic solution of claim 1 having a low pH was an acidic solution comprising acids. By contrast, the smoke condensate called for in claim 1 comprised phenols, carbonyls and polysorbates but no acids.

Hence at the same time acids had to be absent from the smoke compositions but had to be present in order to achieve a low pH. In this context, a preferred pH range of between 2.0 and 3.5 was disclosed in an expert report submitted before the examining division on 29 November 2017.

Consequently, insufficiency arose from this contradiction.

(b) Influence of starting materials on product composition and question of purification

It followed from document D21 that crucial details of the production process included an indication of the type of, among other things, wood or cellulose and the pyrolysis method and temperature employed. Without such details of the production process being identified, it was impossible to obtain the smoke condensate with the composition as identified in claim 1, being restricted to the specified components in specified amounts. D21 also showed

that smoke condensates contained further compounds other than carbonyls, phenols, polysorbates or acids. These additional components included, for instance, different polycyclic aromatic compounds (PAHs) which were each present in very small quantities.

Due to the lack of indication of the starting materials, it was unclear which components needed to be eliminated by purification to achieve a liquid smoke composition as specified in claim 1, devoid of all acids or other components such as PAHs.

(c) No teaching in the patent on purification

There was no teaching in the patent on how acids could be removed from the liquid smoke obtained during a pyrolysis process to arrive at the smoke condensate as claimed in claim 1. Likewise, a mere filtration and concentration step as disclosed in paragraph [0034] of the patent was insufficient to purify a smoke condensate to such an extent that no acids or compounds other than phenols, carbonyls and polysorbates were present in the product. There was no substantiation of the appellant's allegation that well-known techniques existed for removing acids from a smoke condensate, let alone techniques leaving no traces of acids or other components remaining in the smoke condensate.

(d) No teaching on how to achieve the sought effect

The requirement of sufficiency of disclosure was also contravened by the fact that a composition falling within the scope of claim 1, namely SmokeEZ



Enviro 23P, had been demonstrated not to achieve the desired effect of not contaminating the oven in operation. This followed from the expert report filed on 29 November 2017 in the examination phase.

*VIII. Final requests*

The appellant requested that the opposition division's decision be set aside and that the patent be maintained as granted. As an auxiliary measure, it requested that the patent be maintained on the basis of one of auxiliary requests 1 to 3 filed with the statement of grounds of appeal.

The respondent requested that the appeal be dismissed.

**Reasons for the Decision**

*1. Interpretation of claim 1 as granted*

1.1 The parties agree that claim 1 relates to a closed composition, i.e. a smoke condensate that does not include other components than those stated in claim 1.

1.2 Claim construction, namely the meaning that a skilled person would give to the wording of a claim, is a question of law. In determining this, the board is not bound by the parties' views on the matter. Consequently, the board observes that the smoke condensate composition defined in claim 1 is introduced by the term "comprising." Due to the open-ended nature of this formulation, the inclusion of additional ingredients is, in principle, not excluded.

- 1.3 As correctly submitted by the respondent, the scope of claim 1 includes smoke condensates having a low pH of between 2.0 and 3.5. This pH range is a preferred embodiment in the patent. At the same time, the respondent convincingly argued that a pH value of between 2.0 and 3.5 could not be achieved in smoke condensates which do not comprise acids. The board considers that this requirement - that a smoke condensate composition having a pH of between 2.0 and 3.5 must *necessarily* comprise acids - also teaches against interpreting claim 1 as being directed to a "closed" smoke condensate composition, and supports the board's interpretation set out above.
- 1.4 Likewise, claims 2 and 3 contain further limitations which are not in line with a "closed" interpretation of claim 1. Such a closed interpretation would rule out the presence of ash and/or tar components (such as aliphatic or aromatic compounds) called for in claim 3 as granted.
- 1.5 According to the respondent, this view is inconsistent with decisions T 107/14 and T 303/20. In that regard, with reference to these decisions, the respondent argued that, *inter alia*, claim 2 as granted was a "false dependent claim" because it altered the closed composition of an allegedly closed independent claim 1.
- 1.6 The board, however, disagrees. As suggested in T 107/14 (point 1.1. of the Reasons), whether a particular amendment extends beyond the content of the application as originally filed must be assessed based on the information that is clearly and unambiguously disclosed in the entire application as originally filed, i.e. on the merits of the specific case. The same holds true

for the interpretation of a specific claim and the question of whether it is a dependent claim or not.

- 1.7 In the present case, if the respondent's view were accepted, the conclusion would be that claim 1 does not encompass smoke condensates having such a low pH (since this would necessarily require the presence of acids). That conclusion, however, would be at variance with the respondent's argument that claim 1 includes variants having such a low pH (which is a preferred embodiment in the patent). It would also be at odds with the corresponding core teaching of the patent itself as regards the preferred pH range.
- 1.8 Rather than signalling a closed formulation of the smoke condensate, the indication "and the rest water" in claim 1 means that the residual mass up to 100 wt% is made up of a corresponding amount of water. This, however, does not rule out the presence of further components in the smoke condensates, as long as water complements the composition to 100 wt%. Such an interpretation of claim 1 is technically not nonsensical. By contrast, it is in line with e.g. claims 2 and 3 when interpreted as "truly dependent claims". Unlike the interpretation of claim 1 as being directed towards a closed formulation of the smoke condensate, this interpretation leads to a scenario which is not at variance with the teaching of the patent itself.
- 1.9 It is for these reasons that claim 1 is construed as encompassing smoke condensates which can comprise other components than those explicitly specified in the claim ("open claim formulation"), such as undoubtedly acids.

2. *Sufficiency of disclosure - main request*

2.1 With the board construing claim 1 as relating to the use of an "open" composition, no insufficiency of disclosure arises from the subject-matter of claim 1. The reason is that smoke condensate compositions comprising acids or any other additional component(s) fall within the scope of claim 1. Similarly, pH values as recited in claim 2, in the light of this interpretation, can be achieved using acid-containing smoke condensates. No lack of enablement consequently results from the feature combination of granted claim 2, which in the view of the board is also encompassed in the scope of claim 1 as granted (a preferred embodiment as regards the pH range).

2.2 At the same time, the board considers that the respondent has convincingly argued based on D2, D20 and D21 that production processes for smoke condensates inherently yield acids to some extent. This is not detrimental to sufficiency of disclosure in view of the claim interpretation adopted by the board.

The board sees no evidence or convincing argument for the opposition division's contention that such acids cannot simply be removed from smoke condensate without leaving a trace.

Nevertheless, in view of the remarks made under items 1.8 and 1.9 relating to the open interpretation of the smoke condensate compositions, this question can be left undecided. The same applies to trace amounts of polycyclic aromatic hydrocarbons (PAHs) that might be present in such compositions. In view of the possible presence of other compounds, no undue burden results

from the alleged need to purify the compositions either.

Methods for treating the raw smoke, namely filtration and concentration, are mentioned in the patent in paragraph [0034]. Likewise, the appellant referred to document D18, which discloses methods for influencing the amounts of carbonyls and phenols in liquid smoke in the prior art. The board notes that a patent is directed to the skilled person, armed with the common general knowledge in the field concerned. There are thus no serious doubts substantiated by verifiable facts that a skilled person would have been confronted with an undue burden to arrive at smoke condensate compositions having the claimed composition. The respondent's argument that without details of the production process identified in the patent, also regarding the starting material, it was impossible to obtain the smoke condensate with the composition as identified in claim 1 is not convincing either.

- 2.3 Claim 1 does not call for any technical effect to be achieved. Hence the fact that not all compositions falling within the scope of claim 1 might be non-contaminating the oven might have implications for the assessment of inventive step, but does not give rise to insufficiency of disclosure (see G 1/03, Reasons 2.5.2).
- 2.4 In view of the above, the subject-matter of claims 1 to 3 as granted is disclosed in a manner sufficiently clear for it to be carried out by a person skilled in the art. The ground for opposition under Article 100(b) EPC thus does not prejudice maintenance of the patent as granted.

3. *Remittal*

3.1 The board considers that special reasons present themselves for remitting the case for further prosecution. In particular, in the decision under appeal, only the ground for opposition under Article 100(b) EPC has been dealt with. Moreover, the board's interpretation of claim 1, deviating from that adopted by the opposition division and the parties, could also have a bearing on the assessment of the other grounds for opposition.

3.2 Consequently, the decision under appeal is set aside and the case is remitted to the opposition division for further prosecution (Article 11 RPBA and Article 111(1) EPC).

## 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 for further prosecution.

The Registrar:

The Chairman:



K. Götz-Wein

A. Haderlein

Decision electronically authenticated