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**Datasheet for the decision  
of 14 May 2019**

**Case Number:** T 1256/15 - 3.3.02

**Application Number:** 05075068.6

**Publication Number:** 1681337

**IPC:** C10G3/00

**Language of the proceedings:** EN

**Title of invention:**

Method for the manufacture of hydrocarbons

**Patent Proprietor:**

Neste Oil Oyj

**Opponents:**

Haldor Topsoe A/S  
UPM-Kymmene Corp.

**Headword:**

HYDROCARBONS FROM VEGETABLE OILS

**Relevant legal provisions:**

EPC Art. 52(1), 54, 56  
RPBA Art. 12(2), 13(1)

**Keyword:**

Novelty - main request (no)

Inventive step - first auxiliary request (no)

Auxiliary requests II to V - admitted (no)

**Decisions cited:**

**Catchword:**



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Case Number: T 1256/15 - 3.3.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.02**  
**of 14 May 2019**

**Appellant:**  
(Patent Proprietor)

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**Decision under appeal:**

**Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
14 April 2015 concerning maintenance of the  
European Patent No. 1681337 in amended form.**

**Composition of the Board:**

**Chairman**            M. O. Müller  
**Members:**            M. Maremonti  
                             P. de Heij

## Summary of Facts and Submissions

I. The appeal by the patent proprietor (hereinafter "appellant") lies from the interlocutory decision of the opposition division, according to which European patent No. 1 681 337 in its form modified on the basis of the then pending sixth auxiliary request and the invention to which it relates meets the requirements of the EPC.

II. The patent in suit was granted with a set of fourteen claims, independent claim 1 of which reads as follows:

*"1. A method for the manufacture of hydrocarbons suitable for diesel fuel pool, characterized in that the method comprises the steps wherein a feedstock originating from renewable sources and comprising fatty acids or derivatives of fatty acids or combinations thereof, and optionally a solvent or a mixture of solvents are brought into contact with an optionally pre-treated heterogeneous catalyst containing one or more Group VIII metals selected from platinum, palladium, nickel, iridium, ruthenium and rhodium, supported on oxides, mesoporous materials, carbonaceous supports or structured catalyst supports, and a decarboxylation/decarbonylation reaction is carried out at a temperature of 200 - 400°C, preferably 250 - 350°C under a pressure from 0.1 MPa to 15 MPa, preferably of 0.1-5 MPa to yield as a product a mixture of hydrocarbons."*

III. The following documents were referred to, *inter alia*, during the opposition proceedings:

D1: EP 1 396 531 A

D4: Gusmao *et al.*, "*Utilisation of vegetable oils as an alternative source for diesel-type fuel: hydrocracking on reduced Ni/SiO<sub>2</sub> and sulphided Ni-Mo/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub>*", *Catalysis Today*, 5, 1989, pages 533 to 544.

D6: US 4 554 397

D7: Laurent and Delmon, "*Study of the hydrodeoxygenation of carbonyl, carboxylic and guaiacyl groups over sulfided CoMo/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> and NiMo/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalysts. I. Catalytic reaction schemes*", *Applied Catalysis A*, 109, 1994, pages 77 to 96.

The opposition division came to, *inter alia*, the following conclusions on the then pending requests:

- The ground of opposition under Article 100(b) EPC did not prejudice the maintenance of the patent as granted.
- The subject-matter of claim 1 as granted was not novel over D1, D4, D6 and D7.
- The subject-matter of claim 1 of auxiliary request I was not novel over D1 and D7.
- The subject-matter of claim 1 of auxiliary request II was not novel over D4, D6 and D7.
- The subject-matter of claim 1 of auxiliary request III was not novel over D6.
- The subject-matter of claim 1 of auxiliary request IV was not novel over D7.
- The subject-matter of claim 1 of auxiliary request V did not meet the requirements of Article 123(2) EPC.

- The subject-matter of claim 1 of auxiliary request VI was novel and involved an inventive step.

IV. In its statement setting out the grounds of appeal, the appellant contested the reasoning of the opposition division and submitted that the subject-matter of the claims as granted and of the claims according to auxiliary requests I to V as pending before the opposition division was novel and involved an inventive step.

In a further letter dated 20 October 2016, it filed auxiliary requests III to VII, of which auxiliary requests III and VI were new, while remaining requests IV, V and VII corresponded to previous requests III to V, respectively.

V. In its reply to the statement of grounds, opponent 1 (hereinafter "respondent 1") rebutted the arguments of the appellant and submitted, *inter alia*, that the subject-matter according to the main request and auxiliary requests I to IV was not novel and did not involve an inventive step while the subject-matter of auxiliary request V did not involve an inventive step.

In a further letter dated 16 May 2017, respondent 1 submitted that new auxiliary requests III and VI filed by the appellant on 20 October 2016 were late-filed and should not be admitted into the proceedings. Moreover, the subject-matter of these new requests was not sufficiently disclosed, was not novel and did not involve an inventive step. Auxiliary request VI was further not allowable under Rule 80 EPC.

It corroborated its argumentation on the insufficiency of disclosure and lack of inventive step of these new

requests by relying on the following new items of evidence:

- D18: Snare *et al.*, "*Heterogeneous Catalytic Deoxygenation of Stearic Acid for Production of Biodiesel*", *Ind. Eng. Chem. Res.*, 2006, vol. 45, pages 5708-5715,
- D19: Goguet *et. al.*, "*Preparation of a Pt/SiO<sub>2</sub> catalyst - II. Temperature-programmed decomposition of the adsorbed platinum tetrammine hydroxide complex under flowing hydrogen, oxygen, and argon*", *J. of catalysis*, 2003, vol. 220, pages 280-290,
- D20: "*Catalysis from A to Z, A concise Encyclopedia*", 4th Edition, Wiley 2013, Volume 4, pages 1920-1923,
- D21: Declaration by Dr. Rasmus G. Egeberg dated 10 May 2017.

- VI. In its reply to the statement of grounds, opponent 2 (hereinafter "respondent 2") rebutted the arguments of the appellant and also submitted, *inter alia*, that the subject-matter according to the main request and auxiliary requests I to IV was not novel and did not involve an inventive step while the subject-matter of auxiliary request V did not involve an inventive step.
- VII. The board issued a communication in preparation for the oral proceedings. The board expressed the preliminary opinion that the subject-matter of claim 1 as granted and of claim 1 according to some auxiliary requests appeared to be anticipated by, *inter alia*, document D4.
- VIII. In reply to the board's communication, the appellant filed by letter of 8 May 2019 six sets of claims to be



considered as its main request and auxiliary requests I to VI.

IX. Oral proceedings before the board were held on 14 May 2019. During oral proceedings, the appellant filed six new sets of claims to be considered as its main request and auxiliary requests I to V. All previous requests were withdrawn.

X. Final requests

The appellant requests that the decision under appeal be set aside and that the patent be maintained on the basis of the claims of the main request or, alternatively, of one of auxiliary requests I to V, all requests having been filed during oral proceedings before the board on 14 May 2019.

Respondents 1 and 2 request that the appeal be dismissed.

They further request that auxiliary requests II to V not be admitted into the proceedings.

XI. The arguments of the appellant, where relevant for the present decision, can be summarised as follows:

Main request:

- The claimed method required the feedstock to comprise "*fatty acids or derivatives of fatty acids*". The use of the plural form, unambiguously meant that the feedstock had to comprise more than one fatty acid or derivative. This was especially true in view of the fact that the product was stated in claim 1 to be "*a mixture of hydrocarbons*", which was only obtainable if the

feedstock contained more than one fatty acid or derivative.

- In the part of the sentence of claim 1 "*supported on oxides, mesoporous materials, carbonaceous supports or structured catalyst supports*", the plural form was used to refer to the previously mentioned embodiment, in which the catalyst contained "*more metals*". Hence, the plural form was used consistently in claim 1 to indicate a plurality of items.
- For this reason alone, the claimed subject-matter was novel over document D4, disclosing a feedstock containing a single fatty acid.
- A further difference with regard to D4 was that claim 1 at issue required the catalyst to be pretreated with hydrogen whereas according to D4, page 535, a "*precursor*" was treated with hydrogen.
- Therefore, the subject-matter of the main request was novel over D4.

Auxiliary request I:

- For the assessment of inventive step, D1 was the closest prior art. D4 was not a suitable starting point since the method disclosed in it was carried out under high hydrogen pressures whereas the contested patent focused on the reduction of the hydrogen consumption.
- However, even starting from D4 as the closest prior art, the skilled person would not have arrived at the claimed subject-matter.

- The distinguishing feature would be in this case the isomerisation of the decarboxylation/ decarbonylation (hereinafter "DCO") reaction product. According to paragraph [0058] of the contested patent, isomerisation improved the cloud point of the product. The objective technical problem was therefore how to improve the cloud point property of the product.
- D4 did not mention this property and, on page 543, taught away from the isomerisation of the produced hydrocarbons.
- D1 merely disclosed that isomerisation might improve the performance at low temperature. Therefore, the skilled person would not have combined D4 with D1 to solve the posed problem.
- The claimed subject-matter thus involved an inventive step.

Admittance of auxiliary requests II to V:

- The restricted temperature range for the catalyst's pretreatment as included in these requests was a preferred feature of the claimed method in all requests presented during opposition proceedings.
- It was already introduced as a mandatory feature in auxiliary request VII filed before the opposition division.
- It was also included in appeal proceedings in claim requests filed two and a half years before the oral proceedings to overcome novelty objections raised by the respondents. The respondents therefore had ample opportunity to consider this feature and

indeed they did take a position on the patentability of it.

- Auxiliary request III had to be regarded as a direct response to the objection of the respondents concerning the introduction of the term "step" in claim 1 of previous auxiliary request VI.
- Auxiliary request IV was filed in response to the replies of the respondents to the statement of grounds of appeal.
- In auxiliary request V, the Group VIII metals in claim 1 were restricted to platinum or palladium. This restriction had to be seen as a direct response to the late-filed documents filed by respondent 1 in support of its insufficiency objection.
- The introduction of these requests did not increase the complexity of the case. Nor did it give rise to new issues. Therefore, these requests should be admitted under Article 13(1) RPBA.

XII. The respondents essentially counter-argued as follows:

Main request:

- The plural form used in claim 1 also covered methods starting from feedstocks containing individual fatty acid molecules of a single fatty acid. This was evident from the fact that the plural form was used several times within claim 1. Reference was made to the feedstock originating from "*renewable sources*" and to the catalyst "*supported on oxides, mesoporous materials, carbonaceous supports and structured catalyst supports*". It was clear that claim 1 should not be

read as requiring that the feedstock originate from multiple renewable sources or that the catalyst comprise multiple supports.

- This reading of claim 1 was supported by the description and specifically by the examples of the contested patent, which all disclosed methods in which a single fatty acid was employed.
- Additionally, no contradiction existed between a feedstock comprising a single fatty acid and a product comprising "*a mixture of hydrocarbons*" as required by claim 1. The DCO reaction covered both decarboxylation and decarbonylation. The first led to saturated hydrocarbons while the second to unsaturated hydrocarbons. Therefore, even if a single fatty acid was subjected to the DCO reaction, the latter produced a mixture of at least two hydrocarbons, in accordance with claim 1 at issue.
- At least document D4 anticipated the subject-matter of claim 1.
- According to D4, page 535, the term "*precursor*" was merely used to identify the catalyst before reduction with hydrogen. No difference with respect to claim 1 was thus present.

Auxiliary request I:

- For the assessment of inventive step, D4 was a suitable starting point. In fact, it was directed to the same purpose as the contested patent, namely, the production of hydrocarbons suitable for diesel fuel, and focused on the DCO reaction required by claim 1.

- Instead D1 concerned the production of hydrocarbons for diesel fuel mainly by hydrodeoxygenation. DCO occurred as well but to a lesser extent. Contrary to what was submitted by the appellant, there was no evidence that in the method of D1 less hydrogen was used than in the method taught by D4.
- Starting from D4, the only distinguishing feature would be the isomerisation of the DCO products. According to paragraph [0036] of the contested patent, isomerisation improved the cold properties of the product. The objective technical problem was therefore how to improve the cold properties of the produced hydrocarbons.
- The hydrocarbons produced in D4 and listed on page 543 were solid at room temperature. The skilled person would therefore have been prompted to improve their cold properties, particularly their cloud point.
- D1 disclosed in paragraphs [0016] and [0032] that the cold properties of the produced hydrocarbons were improved by subjecting them to isomerisation. According to D1, paragraphs [0030] and [0031], the latter was carried out at the same operating conditions as those specified in claim 1 at issue. Example 1 of D1 (table 2) confirmed that the isomerised product had excellent properties, particularly the cloud point ("*turbidity point*" in D1, table 2).
- Looking for a solution to the posed technical problem, it would have therefore been obvious for the skilled person to combine D4 with D1 and arrive at the claimed subject-matter. Auxiliary request I thus lacked inventive step.

Admittance of auxiliary requests II to V:

- Claim 1 of all these requests included a restricted temperature range for the catalyst pretreatment. Such a feature had only been included in auxiliary request VII filed before the opposition division one month before the oral proceedings. Thus, it was not possible for the opponents to reply at this stage. Moreover, in this request, this feature was combined with other restricting features.
- The inclusion of this new feature created a fresh case since it was not dealt with in the impugned decision. Nor was it present in the claim requests filed with the grounds of appeal. It raised new issues under sufficiency of disclosure and inventive step. In fact, it was obscure how a nickel-based catalyst might be activated at the indicated low temperature. Additionally, the significance of this feature as regards inventive step had never been assessed.
- The opposition division already provided detailed reasoning in the appealed decision that the claimed subject-matter lacked novelty, *inter alia* over D4, in view of the catalyst's pretreatment temperatures disclosed. Therefore, the appellant should have filed a restriction of the pretreatment temperature with its grounds of appeal at the latest.
- This restriction was also not occasioned by the replies of the respondents since no new arguments concerning the catalyst's pretreatment temperature had been submitted.
- The appellant had already tried to distinguish the claimed subject-matter from the cited prior art by

filing several diverging requests. The further line of restriction included in auxiliary requests II to V was an abuse of the proceedings since the novelty objections had not changed.

- Auxiliary requests II to V should therefore not be admitted into the proceedings under Articles 12(4) and 13(1) RPBA.

### **Reasons for the Decision**

Main request - reading of claim 1

1. In claim 1 of the main request, the feature of claim 1 as granted (II, *supra*) "*a feedstock [...] are brought into contact with an optionally pre-treated heterogeneous catalyst*" was amended in that the term "*optionally*" was deleted. Moreover, the following feature was added:  
  
*"wherein the heterogeneous catalyst is pre-treated with hydrogen at a temperature of 100 - 500°C, preferably 150 - 250°C before contacting it with the feedstock."*
2. Claim 1 requires that "*a feedstock originating from renewable sources and comprising fatty acids or derivatives of fatty acids or combinations thereof*" is brought into contact with a certain pretreated catalyst containing one or more Group VIII metals selected from platinum, palladium, nickel, iridium, ruthenium and rhodium, supported on oxides, mesoporous materials, carbonaceous supports or structured catalyst supports, and a DCO reaction is carried out at a certain temperature and pressure to yield as a product a mixture of hydrocarbons.



2.1 The appellant argued (XI, *supra*) that the claim 1's reference to the plural form "fatty acids or derivatives" (see the quoted passage above) required the feedstock to comprise more than one fatty acid or derivative.

2.2 The board is, however, convinced that methods starting from feedstocks comprising a single fatty acid or derivative are also covered by the claimed subject-matter. The adopted plural form covers not only a method starting from a mixture of two or more fatty acids but also a method starting from individual molecules of a single fatty acid or derivative.

This reading is supported by the description and specifically by the examples contained in the contested patent. These all disclose methods in which a single fatty acid or derivative is employed.

2.3 Moreover, the plural form is used several times within claim 1 at issue. Reference is made, for example, to the feedstock originating from "*renewable sources*" and to the catalyst "*supported on oxides, mesoporous materials, carbonaceous supports and structured catalyst supports*" (emphasis added by the board). It is clear and not disputed by the appellant that claim 1 should not be read as requiring the feedstock to originate from multiple renewable sources.

2.4 In respect to the catalyst said to comprise multiple supports, the appellant argued that multiple supports would have referred to embodiments in which multiple metals were present. This argument, however, cannot be accepted. Indeed, the contested patent does not contain any teaching directed to a catalyst comprising multiple metals on multiple supports.

2.5 Finally, there is no contradiction between a feedstock comprising a single fatty acid or derivative and a product comprising "a mixture of hydrocarbons" as required by claim 1. The DCO reaction actually covers both decarboxylation and decarbonylation. The first leads to saturated hydrocarbons while the second to unsaturated hydrocarbons. Therefore, even if a single fatty acid or derivative is subjected to a DCO reaction, the latter produces a mixture of at least two hydrocarbons, in accordance with claim 1 at issue.

2.6 The board thus concludes that the feature of claim 1 requiring the feedstock to comprise "*fatty acids or derivatives of fatty acids*" should be read as to include feedstocks comprising a single fatty acid or derivative.

Main request - claim 1 - novelty

3. The respondents objected to the novelty of the subject-matter of claim 1 of the main request, *inter alia*, in view of document D4.

3.1 Document D4 concerns (abstract) the catalytic hydrocracking of vegetable oils to produce a diesel-type fuel. D4 discloses (pages 537 to 539 and figure 2) the DCO reaction of stearic acid in the presence of a **reduced** Ni/SiO<sub>2</sub> catalyst at 395°C and at a pressure of about 60 bar (6 MPa), which produces a mixture of hydrocarbons. D4 also discloses (page 540, last paragraph and page 543) the reaction of soybean oil, known to comprise a mixture of fatty acids, in the presence of the same catalyst at 370°C and 110 bar (11 MPa), which produces a mixture of C<sub>15</sub> to C<sub>18</sub> hydrocarbons.

The stearic acid and soybean oil correspond to the feedstock as defined in claim 1, comprising (at least) a single fatty acid, this feature not distinguishing the claimed subject-matter from the disclosure in D4 (2.6, *supra*). The reaction conditions of 370°C and 110 bar (11 MPa) are within the ranges as defined in claim 1. Reduced Ni/SiO<sub>2</sub> corresponds to the heterogeneous catalyst of claim 1.

- 3.2 Additionally, according to D4 (page 535, "*Preparation and Characterization of Catalysts*"), said **reduced** Ni/SiO<sub>2</sub> catalyst is prepared by treating the catalyst with hydrogen at 400°C for 20 hours. The temperature is within the range required by claim 1 for the catalyst pretreatment.

The appellant argued (XI, *supra*) that D4 on page 535 referred to the treatment of a "*precursor*" and not the catalyst.

This argument, however, cannot be accepted. The term "***precursor***" is used on page 535 of D4 merely to identify the same catalyst, Ni on SiO<sub>2</sub>, **before** reduction with hydrogen.

- 3.3 The board therefore concludes that D4 discloses all the features of claim 1 of the main request. The subject-matter of claim 1 is thus not novel over D4.

The main request is thus not allowable under Articles 52(1) and 54 EPC.

Auxiliary request I - inventive step

4. In comparison with claim 1 of the main request (1, *supra*), claim 1 of auxiliary request I contains the following additional feature:

*"and wherein the product is isomerized under a pressure in the range of 2-15 MPa, preferably 3-10 MPa and at a temperature between 200 and 500 °C, preferably between 280 and 400 °C in the presence of an isomerization catalyst."*

4.1 Closest prior art

4.1.1 The appellant argued that document D1 should be regarded as the most relevant state of the art since it aimed, like the contested patent, to produce hydrocarbons suitable for diesel fuel and disclosed the isomerisation of the reaction products.

D4, on the other hand, was not a suitable starting point. In fact, it concerned hydrocracking under high hydrogen pressures, ranging from 150 to 300 bars, i.e. outside the claimed range. The appellant referred to page 534. This implied a high hydrogen consumption, whereas the patent in suit focused on the reduction of the hydrogen consumption as explained in paragraphs [0022] and [0029] to [0031]. Moreover, D4 did not disclose isomerisation of the hydrocarbons produced by the reaction.

4.1.2 The board disagrees. As already set out above (3.1, *supra*), D4 discloses a catalytic method aiming at producing hydrocarbons suitable as diesel fuel from vegetable oils. This is the same purpose as stated in the claimed method. Additionally, the hydrocarbons are produced by DCO reaction as required by claim 1 at issue.

The pressures of 150 and 300 bars mentioned on page 534 of D4 referred to by the appellant merely represent the working limits of the reactors used for the experiments. They are not the pressures used in the

experiments, which, as mentioned under 3.1, above, are well within the range of claim 1.

Moreover, no reduced hydrogen consumption as compared to D4 can be inferred from the features of claim 1. Claim 1 actually requires the same starting material and the same reaction conditions as disclosed in D4.

The board concludes that D4 does represent a suitable starting point for the assessment of inventive step.

4.1.3 As to D1, the board notes that here (paragraph [0020]) the feedstock is contacted with hydrogen gas to afford a hydrodeoxygenation reaction. The appellant's argument that D4 would not be a suitable starting point in view of the high hydrogen consumption would thus apply to D1 as well.

4.2 The technical problem

4.2.1 It was common ground that the subject-matter of claim 1 at issue differs from the method of D4 only in that the reaction product is isomerised under the specified temperature and pressure conditions.

4.2.2 The respondents pointed to paragraph [0036] of the contested patent, mentioning that isomerisation improved the cold properties of the reaction product. They submitted that the technical problem should be formulated accordingly.

4.2.3 According to the appellant, the distinguishing feature instead resulted in the specific improvement of the cloud point properties of the product as shown in example 7 (paragraph [0058]) of the patent in suit. The technical problem should thus be specifically restricted to the improvement of the cloud point properties.

4.2.4 In the following assessment of inventive step, the board, for the sake of argument only and in favour of the appellant, accepts this restricted formulation of the technical problem, which thus represents the objective technical problem.

#### 4.3 Obviousness of the claimed solution

What remains to be decided is whether, having regard to the state of the art and common general knowledge, it would have been obvious to the skilled person seeking to solve the posed technical problem to modify the method of the closest prior art by incorporating the isomerisation of the reaction product as required by claim 1 at issue.

4.3.1 The appellant argued that D4 did not mention the cloud point of the produced hydrocarbons and that on page 543, point (ii), it even taught away from the addition of an isomerisation step. As to D1, the appellant argued that this document merely reported very generally that isomerisation improved the performances at low temperatures. No reference to the cloud point was made.

4.3.2 The board disagrees. D4 on page 543 reports the results of the analysis carried out on the reaction product. Under point (ii), it discloses that starting from soybean oil, a mixture of linear hydrocarbons, namely n-C<sub>15</sub>H<sub>32</sub>, n-C<sub>16</sub>H<sub>34</sub>, n-C<sub>17</sub>H<sub>36</sub> and n-C<sub>18</sub>H<sub>38</sub> was obtained. It further reports that "*the transformations of carboxylic acids into hydrocarbons at the chosen operating conditions **are not accompanied by either isomerization or hydrogenolysis to any appreciable extent***" (emphasis added by the board). The authors of D4 thus merely observed that isomerisation did not occur under the chosen operating conditions. This

observation does not constitute a *teaching away* from the possible incorporation of the subsequent isomerisation of the obtained product.

- 4.3.3 Looking for a solution to the posed technical problem (4.2.3, *supra*), the skilled person would have consulted document D1, which also disclosed (paragraphs [0001], [0012] and [0013]) a method for producing hydrocarbons suitable for diesel fuel from a feedstock comprising fatty acids. According to D1 (paragraphs [0016] and [0026] to [0032]), the hydrocarbons obtained by the catalytic reaction are subjected to an isomerisation step to improve their performance at low temperature. The isomerisation step is carried out under a pressure in the range of 20 to 150 bar (2-15 MPa) and at a temperature between 200 and 500 °C in the presence of an isomerisation catalyst (paragraphs [0030] and [0031]). D1 therefore discloses the same isomerisation conditions as required by claim 1 at issue (4, *supra*).
- 4.3.4 Example 1 of D1 (paragraphs [0068] to [0073]) concerns the production of hydrocarbons starting from tall oil fatty acid. The reaction product is subjected to isomerisation (paragraph [0071]). Table 2 on page 9 shows the properties of the hydrocarbon component as obtained after isomerisation. A *turbidity point* of -12 °C is reported. It was undisputed that the *turbidity point* is a synonym of the cloud point of the product. D1 concludes (paragraph [0073]) that the "*performance at low temperature is considerably improved by the isomerisation*" and that the "*product is very suitable as a component in diesel fuels*". The cloud point is therefore clearly identified in D1 as one of the properties improved by isomerisation of the hydrocarbons. The board incidentally notes that -12 °C is also the cloud point obtained in example 7 of the

contested patent, invoked by the appellant, after isomerisation.

- 4.3.5 Based on the above considerations, the board is convinced that looking for a solution to the posed technical problem, the skilled person would have been prompted by D1 to incorporate the isomerisation step taught in this document into the method of D4 to improve the cloud point properties of the linear hydrocarbons produced in that document. In doing this, the subject-matter of claim 1 at issue would have been obtained without the exercise of any inventive skill.
- 4.4 Thus, auxiliary request I lacks an inventive step over D4 in combination with D1 and is thus not allowable under Articles 52(1) and 56 EPC.

Auxiliary requests II to V - admittance into the proceedings

5. Claim 1 according to all auxiliary requests II to V includes, *inter alia*, the following feature:

*"wherein the heterogeneous catalyst is pre-treated with hydrogen at a temperature of 150 - 250°C before contacting it with the feedstock."*

Therefore, in comparison to claim 1 of the main request and of auxiliary request I (1, 4, *supra*), the range of the catalyst pretreatment temperature was restricted.

- 5.1 The respondents (XII, *supra*) objected to the admittance of late-filed auxiliary requests II to V into the proceedings.

The appellant argued instead (XI, *supra*) that these requests should be admitted pursuant to Article 13(1) RPBA.



- 5.2 The board notes that the appellant changed its claim requests several times during the appeal proceedings (IV, VIII, IX, *supra*), with the last two sets of requests having only been filed one week before and during oral proceedings, respectively. This behaviour already put the board and the respondents in the difficult situation of having to deal with new combinations of features at various points in time and, worse still, at an extremely late stage of the proceedings.
- 5.3 Auxiliary requests II to V were not filed as such before the first instance. The feature referred to under point 5, above, was merely included, in combination with other features, in an auxiliary request VII filed before the opposition division by letter dated 25 February 2015, i.e. one month before oral proceedings. On the one hand, sufficient time was thus not given to the respondents to reply to this request. On the other hand, this request, due to the low ranking chosen by the appellant, was not dealt with during oral proceedings before the opposition division and does not form part of the impugned decision.
- 5.4 The above feature was also not present in any of the claim requests filed with the statement of grounds of appeal. In fact, in the appeal proceedings it was only included in claim requests filed on 20 October 2016 and 8 May 2019, i.e. after the replies of the respondents to the statement of grounds. It therefore represents an amendment to the appellant's case that may be admitted and considered at the board's discretion in accordance with Article 13(1) RPBA.
- 5.5 Under Article 12(2) RPBA, the statement of grounds of appeal shall contain the appellant's complete case. The

appellant put forward that the above feature had been included to establish novelty, particularly over D4.

The board, however, notes that the novelty objections of the respondents based, *inter alia*, on D4 were already present in the notices of opposition. The opposition division followed these objections in the decision under appeal, particularly in view of the catalyst's pretreatment temperatures disclosed in this document (impugned decision, page 21, points 4.1 to 4.4). Therefore, under Article 12(2) RPBA, the appellant should have filed claim requests including the above restriction of the catalyst pretreatment temperature with its statement of grounds at the latest. It chose not to do so and instead pursued other restrictions of the claimed subject-matter.

- 5.6 The appellant furthermore argued that the restriction of the pretreatment temperature mentioned under point 5, above, was inserted in direct response to the replies of the respondents to the statement of grounds and that this insertion did not increase the complexity of the case.

The board disagrees. In their replies to the statement of grounds, the respondents merely reiterated the same novelty objections based, *inter alia*, on D4, already put forward in the proceedings before the first instance. No new arguments concerning the catalyst's pretreatment temperature were submitted. Additionally, the introduction of the feature mentioned under point 5, above, raised objections regarding sufficiency of disclosure and inventive step and triggered the filing of new documents D18 to D21 by respondent 1 (V, *supra*).

The board is thus convinced that the filing of auxiliary requests II to V finds no justification in

the replies of the respondents to the statement of grounds. Moreover, these requests raise new issues under sufficiency of disclosure and inventive step since the technical significance of the restriction of the catalyst pretreatment temperature had not been assessed before. The complexity of the claimed subject-matter is therefore increased. The fact that the respondents have had ample time to consider the additional restrictive feature does not compensate for this drawback.

- 5.7 For the reasons set out above, the board, in the exercise of its discretion under Article 13(1) RPBA, decided not to admit auxiliary requests II to V into the proceedings.

#### Conclusion

6. None of the appellant's requests is admissible and allowable.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



N. Maslin

M. O. Müller

Decision electronically authenticated