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**Datasheet for the decision  
of 3 December 2019**

**Case Number:** T 1875/15 - 3.3.02

**Application Number:** 03709392.9

**Publication Number:** 1490460

**IPC:** C10M141/10, C10M161/00

**Language of the proceedings:** EN

**Title of invention:**

LUBRICATING COMPOSITIONS WITH GOOD THERMAL STABILITY AND  
DEMULSIBILITY PROPERTIES

**Patent Proprietor:**

The Lubrizol Corporation

**Opponent:**

Afton Chemical Corporation

**Headword:**

**Relevant legal provisions:**

EPC Art. 54, 56, 100(a), 100(c), 114(2)  
RPBA Art. 13(1), 13(3)

**Keyword:**

Grounds for opposition - added subject-matter (no)

Novelty - (yes)

Inventive step - (yes)

Late-filed objections - admitted (no)

**Decisions cited:**

T 0232/08, T 1621/09, T 1914/12, T 1605/13, T 0635/14,

T 1381/15

**Catchword:**

A board has in principle no discretion for not admitting late-filed arguments (T 1914/12 followed). However, if a late-filed objection includes new allegations of fact, the board has under Article 114(2) EPC the discretion not to admit it into the proceedings (reasons 2.1 to 2.5, 9.3 to 9.4).



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Case Number: T 1875/15 - 3.3.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.02**  
**of 3 December 2019**

**Appellant:** The Lubrizol Corporation  
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**Representative:** D Young & Co LLP  
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**Respondent:** Afton Chemical Corporation  
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**Representative:** J A Kemp LLP  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 21 July 2015  
revoking European patent No. 1490460 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman** M. O. Müller  
**Members:** M. Maremonti  
L. Bühler

## Summary of Facts and Submissions

I. The appeal by the patent proprietor (hereinafter "appellant") lies from the decision of the opposition division to revoke European patent No. 1 490 460.

II. The contested patent in its granted form contains eleven claims, independent claim 1 of which reads as follows:

*"1. A lubricating composition consisting of an oil of lubricating viscosity,*

*(a) at least one sulfur-free hydrocarbyl phosphoric acid ester or salt,*

*(b) at least one sulfur-containing hydrocarbyl phosphoric acid ester or salt,*

*(c) an organic polysulfide,*

*(d) at least one dispersant selected from the group consisting of (i) an acylated amine, (ii) a carboxylic ester, (iii) a Mannich reaction product, (iv) a hydrocarbyl-substituted amine, (v) a reaction product of a hydrocarbyl substituted carboxylic acylating agent and a polyamine, and (vi) a borated version of one or more of (i) to (v),*

*(e) from 0.01% to 0.1% by weight of at least one triazole metal deactivator,*

*(f) from 0.001% to 2% of at least one thiadiazole metal deactivator, and*

*(g) optionally one or more additives selected from the group consisting of polymers, fluidizing agents,*

*detergents, corrosion and oxidation inhibiting agents, extreme pressure agents, antiwear agents, pour point depressants, color stabilizers, anti-foam agents and mixtures thereof;*

*wherein said polymers are selected from the group consisting of a polyalkene or derivative thereof, an ethylene-olefin copolymer, an ethylene-propylene polymer, an olefin-unsaturated carboxylic acid reagent polymer, a polyacrylate, a polymethacrylate, a hydrogenated interpolymer of an alkenylarene and a conjugated diene, or mixtures thereof;*

*wherein said fluidizing agents are selected from the group consisting of an alkylated aromatic hydrocarbon, a naphthenic oil, a polyolefin having a kinematic viscosity from 3 to 20 cSt at 100°C, a carboxylic acid ester or mixtures of two or more thereof;*

*wherein said detergents are selected from the group consisting of oil-soluble neutral and overbased salts of alkali or alkaline earth metals with sulfonic acids, carboxylic acids, phenols, or organic phosphorus acids;*

*wherein said corrosion and oxidation inhibiting agents, extreme pressure agents and antiwear agents are selected from the group consisting of chlorinated aliphatic hydrocarbons, sulfurized alkylphenols, phosphosulfurized hydrocarbons, metal thiocarbamates and ashless dithiocarbamates; and*

*wherein said pour point depressants are selected from the group consisting of polymethacrylates, polyacrylates, polyacrylamides, condensation*

*products of haloparaffin waxes and aromatic compounds, vinyl carboxylate polymers and polymers of dialkylfumarates, vinyl esters of fatty acids and alkyl vinyl ethers."*

Claims 2 to 10 define specific embodiments of the composition of claim 1, while claim 11 is directed to the use of the composition of claim 1.

III. The following documents were among those cited during the opposition proceedings:

O1: EP 0 531 000 A

O2: CA 2 099 314 A

O5: US 4 234 435 A

Annex A and Annex B: Experimental data submitted by the appellant with the letter dated 26 October 2012.

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

- The subject-matter of claim 1 as granted met the requirements of Article 123(2) EPC.
- The subject-matter of claim 1 as granted was novel over document O1 but lacked an inventive step in view of O1 taken as the closest prior art.
- The same applied to claim 1 of auxiliary request 1.
- Auxiliary requests 2 and 3 met the requirements of Article 123(2) EPC.
- The subject-matter of claim 1 of auxiliary requests 2 and 3 was not clear.

- Auxiliary request 4 was late-filed and *prima facie* not allowable under Article 123(2) EPC. It was not admitted into the proceedings.

IV. In its statement of grounds of appeal and in a subsequent letter, the appellant contested the reasoning of the opposition division and maintained, *inter alia*, that the grounds for opposition under Article 100(a) and (c) EPC did not prejudice the maintenance of the patent as granted.

The appellant corroborated its argumentation on inventive step by filing *inter alia* the following new item of evidence:

Annex C: original data used to prepare Annex A.

V. In its reply to the statements of grounds of appeal and in a subsequent letter, the opponent (hereinafter "respondent") rebutted the arguments of the appellant and maintained, *inter alia*, that the grounds for opposition under Article 100(a) (lack of novelty and lack of inventive step) and (c) EPC prejudiced the maintenance of the patent as granted.

VI. The parties were summoned to oral proceedings following their respective requests.

In preparation for the oral proceedings, the board issued a communication in which it expressed, *inter alia*, the preliminary opinion that the ground for opposition under Article 100(c) EPC did not prejudice the maintenance of the patent as granted.

VII. Oral proceedings before the board were held on 3 December 2019.

VIII. Final requests

The appellant requested that the impugned decision be set aside and the patent be maintained as granted (main request). Alternatively, it requested that the patent be maintained on the basis of either the first auxiliary request filed as fourth auxiliary request during the oral proceedings before the opposition division, the second auxiliary request filed with the statement of grounds of appeal or the third auxiliary request filed as the second auxiliary request by letter dated 8 May 2015.

The respondent requested that the appeal be dismissed.

It also requested that the first and second auxiliary request of the appellant not be admitted into the proceedings.

IX. The arguments of the appellant, where relevant to the present decision, may be summarised as follows:

Added matter under Article 100(c) EPC:

- The subject-matter of claim 1 as granted was based on claim 1 as filed, to which the features of dependent claims 10 and 11 had been added.
- The replacement of "*comprising*" with "*consisting of*" was based on page 3, lines 20 to 25, of the application as filed.
- All additives disclosed in the application as filed were part of claim 1 as granted.
- No multiple selections from the application as filed were necessary to obtain the subject-matter of claim 1 as granted.



- It had to be concluded that the ground for opposition under Article 100(c) EPC did not prejudice the maintenance of the patent as granted.

Admittance of the new objection under Article 100(c) EPC:

- The objection to the feature "*polyolefin having a kinematic viscosity from 3 to 20 cSt at 100°C*" mentioned in claim 1 was raised by the respondent for the first time during oral proceedings. The appellant was not in the position to deal with this objection at such an extremely late stage of the proceedings. Thus, this new objection should not be admitted.

Novelty:

- The subject-matter of claim 1 as granted was novel over example II of O1 invoked by the respondent. In fact, claim 1 differed from said example II at least in the following features:
  - exclusion of the phosphorylated and boronated dispersant;
  - triazole metal deactivator concentration ranging from 0.01% to 0.1% by weight;
  - thiadiazole metal deactivator concentration ranging from 0.001% to 2% by weight;
  - exclusion of C<sub>36</sub> dimer acid and caprylic acid;
  - exclusion of Pluronic L-101.
- The feature "*acylated amine*" (component (d) (i) of claim 1) had to be read so that no salts or other products derived from acylated amines by any

chemical reaction were encompassed by this feature, apart from a boronated version of it, explicitly mentioned as component (d)(vi) in claim 1. This was confirmed by paragraphs [0080] and [0094] of the contested patent. Boronation of acylated amines was included but e.g. phosphorylation was not.

- Document 01 itself made a distinction between dispersants and *post-treated* dispersants on page 56, lines 20 to 22. Also document 05, referred to in paragraph [0081] of the contested patent, described in column 41, lines 48 to 63 phosphorylation of acylated amines as a *post-treatment* of these amines.
- The dispersant used in example II of 01 was prepared according to example 44 of 01. Here, an acylated amine was reacted at high temperature with phosphorous acid and boric acid. The product of this *post-treatment* was a phosphorous salt, which thus did not fall under the term "*acylated amine*" required by claim 1 as component (d)(i).
- No evidence had been provided by the respondent that component (a) of claim 1 would react *in situ* with an acylated amine defined under component (d)(i) to give rise to a phosphorylated dispersant.
- It had to be concluded that the subject-matter of claim 1 as granted was novel over example II of 01.

Inventive step:

- Example II of document 01 represented the closest prior art.
- The objective technical problem deriving from the above mentioned distinguishing features had to be

seen at least in the provision of an alternative lubricating composition able to maintain load-bearing, anti-wear and corrosion properties.

- Annex C contained the original data used to prepare Annex A. The results shown in Annexes B and C demonstrated that this problem was effectively solved by the claimed composition. Even if the results of identical experiments B and E in Annex C substantially differed from each other in terms of obtained load, the average between the two results was 62.5 lbs, i.e. still above the minimum of 60 lbs required to pass the Timken OK test used.
- In looking for a solution to the posed technical problem, the skilled person would have not considered removing the phosphorylated dispersant from the composition of example II of O1. In fact, the presence of such phosphorylated dispersant was the core of the invention of O1, see page 2, lines 22 to 49 and example XVII on page 68. The removal of the phosphorylated dispersant would completely change the properties of the lubricating composition of example II, so that load-bearing, anti-wear and corrosion properties would not be maintained.
- Document O2 concerned the improvement of frictional characteristics of a gear oil, i.e. it was directed to solve a totally different problem as compared to O1. The skilled person trying to solve the posed technical problem would have had no reasons to consider the dispersants taught in O2, let alone as a replacement for the phosphorylated dispersant of the closest prior art.

- Solely because of the exclusion of the phosphorylated dispersant of example II of O1, the subject-matter of claim 1 thus involved an inventive step.

Admittance of the new inventive step objection starting from O2 as closest prior art:

- The objection for lack of inventive step starting from O2 as the closest prior art was raised by the respondent for the first time during oral proceedings. In fact, O2 had not been relied upon by the respondent during the appeal proceedings.
- Moreover O2 concerned the improvement of frictional properties, i.e. a totally different problem as compared to the contested patent. It was also evident from the appealed decision, page 10, fourth paragraph, that the respondent agreed that O2 was not a suitable closest prior art.
- The appellant would be taken by surprise and would not be able to deal with this objection at such an extremely late stage of the proceedings without adjournment of the oral proceedings. Thus, this new objection should not be admitted.

X. The arguments of the respondent, where relevant to the present decision, may be summarised as follows:

Added matter under Article 100(c) EPC:

- According to case law, the subject-matter of an original independent claim was not necessarily a suitable starting point for assessing compliance with Article 123(2) EPC. Reference should be made to T 1605/13.

- In the present case, the invention was generally disclosed on page 2, lines 15 to 18. Starting from claim 1 as filed meant that a first selection from this broader disclosure had already taken place.
- Additionally, the application as filed did not contain any basis for replacing "*comprising*" with "*consisting of*". A person skilled in the art of lubricants would have known that many more additives than those mentioned in the application as filed might be used in lubricating compositions. Such additives were encompassed by the original term "*comprising*". No disclosure was present in the application as filed that such additives could be excluded. The restriction of claim 1 as granted imposed by the term "*consisting of*" thus represented a new piece of information, which was not originally disclosed.
- The passage on page 3, lines 20 to 25, of the application as filed could also not provide a basis for the term "*consisting of*". In fact, this passage generally mentioned "*additives*", without, however, specifying which additives were intended, let alone the specific additives required by claim 1 as granted. On page 47, lines 5 to 10, of the application as filed, a list of additives mentioned in claim 1 as granted was disclosed. This list, however, was non-exhaustive as evident from the term "*for example*" mentioned in said passage and e.g. from the fact that boronated detergents were included as additives in the application as filed, page 47, lines 14 to 18, but excluded from claim 1 as granted.

- Even assuming that a basis for the term "*consisting of*" was present, the inclusion of this term in claim 1 as granted represented a second selection between two alternatives, namely, "*comprising*" and "*consisting of*", from the application as filed.
- The inclusion in claim 1 as granted of an "*oil of lubricating viscosity*" had to be regarded as a further selection from page 46, lines 19 to 26, of the application as filed. Here, e.g. *kerosene* was mentioned as a possible organic diluent, which was, however, excluded from claim 1 as granted.
- Therefore, a large number of selections from the application as filed was necessary to arrive at the subject-matter of claim 1 as granted.
- It had to be concluded that the ground for opposition under Article 100(c) EPC prejudiced the maintenance of the patent as granted.

Admittance of the new objection under Article 100(c)  
EPC:

- The feature "*polyolefin having a kinematic viscosity from 3 to 20 cSt at 100°C*" mentioned among the fluidizing agents required by claim 1 as granted was not disclosed in the application as filed.
- In fact, the application as filed mentioned on page 45, line 16, "*poly*-olefin having a kinematic viscosity from about 3 to about 20 cSt at 100°C". The sign " erroneously present in this passage should have actually been read as "*alpha*" as evident from the subsequent disclosure on page 47, line 28, that "*The poly-olefins (PAOs) are*

*described above*". On previous page 38, lines 20 to 21, of the application as filed, it was explained that "PAO" meant "*polyalpha-olefin*". Therefore, the generalisation from "*polyalpha-olefin*" to "*polyolefin*" included in claim 1 did not have a basis in the application as filed.

- This objection merely represented a new argument under Article 100(c) EPC. As a new argument, according to established case law, the objection had to be admitted since no discretion was available to the board under Article 114(2) EPC. The latter took precedence over the Rules of Procedure of the Boards of appeal (RPBA). Arguments might be brought forward at any time. Moreover, even considering the RPBA, the application as filed was well known to the appellant, and the issue raised was not complex.
- This objection should therefore be admitted into the proceedings.

Novelty:

- The subject-matter of claim 1 as granted lacked novelty over example II of document O1.
- In particular, the feature "*acylated amine*" (component (d)(i) of claim 1) encompassed the phosphorylated and boronated dispersant used in example II of O1. In fact, this dispersant was prepared according to example 44 of O1. Here, an acylated amine was reacted with phosphorous acid and boric acid. The salt formed by this reaction still contained the acylated amine group, which was not affected by the reaction. Therefore, it had to

be regarded as an "acylated amine" within the meaning of component (d) (i) of claim 1.

- There were no reasons to interpret the term "acylated amine" more narrowly. The specific reference to a "borated version" of the acylated amine under component (d) (vi) of claim 1 did not mean that phosphorylated acylated amines were excluded. The reference to boronation was merely a redundancy in claim 1. In fact, claim 1 already contained another redundancy since component (d) (v) also represented an acylated amine and was thus encompassed by component (d) (i).
- Further evidence was that boronated detergents were not mentioned in claim 1 as granted under component (g). However, boronated versions of the detergents specified were encompassed by claim 1 as demonstrated by paragraph [0156] of the contested patent.
- The fact that phosphorylated acylated amines were encompassed by the claimed invention also resulted from the contested patent itself. Paragraph [0081] referred to document 05 as a document disclosing the method of preparation of the acylated amines. 05 in column 41, lines 48 to 63, disclosed the phosphorylation of acylated amines.
- Additionally, phosphorylation of the acylated amines also took place *in situ* within the composition defined in claim 1 as granted. In fact, component (a) containing phosphoric acid would react *in situ* with the acylated amine (component (d) (i)), even at room temperature, thus forming a phosphorylated salt of the acylated amine as in example 44 of 01. This *in situ* reaction was proven



by the NMR spectra submitted with the reply to the statement of grounds of appeal, showing the salt formation even at room temperature.

- It had to be concluded that the phosphorylated dispersant used in example II of O1 was encompassed by the feature "*acylated amine*" (component (d)(i)) of claim 1. Thus, it did not represent a distinguishing feature.

Inventive step:

- Even assuming that the phosphorylated dispersant used in example II of O1 did represent a distinguishing feature, no inventive step derived from its exclusion.
- Example II of document O1 might be regarded as the closest prior art.
- The experimental results shown in Annexes A to C might not demonstrate any technical effect achieved by the claimed composition, let alone over example II of O1.
- In Annex A, none of the compositions tested fell under claim 1 as granted meaning that no conclusion could be made.
- Annex C corresponded to Annex A with the replacement of "*Sulfur-free phosphoric acid ester and/or amines salts thereof*" by "*Thiophosphorous Ester 1*". However, this was not the only possible correction that could be made to bring examples B, E, H, B-1, B-2 and B-3 into conformity with claim 1 as submitted by the appellant. It might well be that the mentioned amine-phosphate (first line in Annex A) was in fact the sulfur-containing ester.

- Even assuming that Annex C was correct, experiments B and E were carried out practically under the same conditions. However, the obtained results were extremely different in terms of both load and wear, thus demonstrating that no technical effect was present.
- Additionally, the tests used to determine load and wear, namely, the Timken OK test and the 4-Ball wear test respectively, were both characterised by very high experimental errors: 30% for the Timken OK test and 0.20 mm for the 4-Ball wear test. Most of the results reported in Annex A and C were within these experimental errors. Therefore, they did not have any technical significance.
- The same applied to the results reported in Annex B. The latter was also unclear as to the adopted experimental conditions. It was obscure which dispersant was used in example J and whether C<sub>36</sub> dimer acid and caprylic acid were present or not. Moreover, it was not understood what the data "2.0" represented.
- Absent any technical effect, the objective technical problem had to be seen merely as the provision of an alternative lubricating composition. The properties of the composition of example II of O1 in terms of load-bearing, anti-wear and corrosion did not have to be maintained. The alternative composition could also have worse properties.
- Non-phosphorylated dispersants would have been well known to the skilled person, see, for example, document O2. The skilled person would replace the phosphorylated dispersant of example II of O1 with

any such non-phosphorylated dispersant, including the dispersants defined in claim 1. The skilled person would have not refrained from doing so since phosphorous would anyway be present in the composition of example II of O1 due to the inclusion of dibutyl hydrogen phosphite and amyl acid phosphate.

- It had to be concluded that the subject-matter of claim 1 did not involve any inventive step.

Admittance of the new inventive step objection starting from O2 as closest prior art:

- Example B on page 12 of document O2 was another suitable starting point for the assessment of inventive step.
- It was acknowledged that this objection was put forward only at oral proceedings. However, this new objection had to be regarded as a new argument based on evidence already on file. In fact, O2 had already been cited in the notice of opposition.
- Being a new argument, the objection should be admitted since no discretion was available to the board under Article 114(2) EPC. Reference should be made to T 1621/09.
- Moreover, even if brought forward late in the proceedings, this objection was not complex, did not raise new issues and avoided that an invalid patent would be maintained.
- For this reason, this new inventive step objection was highly relevant and should be admitted into the proceedings.

XI. During oral proceedings, the board noted that the skilled person would have understood the subject-matter of a claim on the basis of the claim's wording and common general knowledge. The NMR-spectra submitted by the respondent with the reply to the statement of grounds of appeal were not part of the common general knowledge and could therefore not be taken into account in the interpretation of claim 1 of the main request. The respondent did not dispute this finding of the board.

### **Reasons for the Decision**

Main request - patent as granted - ground for opposition under Article 100(c) EPC

1. Claim 1 as granted defines a lubricating composition consisting of an oil of lubricating viscosity and components (a) to (f) and optionally (g). Claim 1 defines component (g) as being selected from, *inter alia*, specific polymers, fluidizing agents, detergents, corrosion and oxidation inhibiting agents, extreme pressure agents, antiwear agents and pour point depressants (exact wording of claim 1 under II, *supra*). Furthermore, claim 1 specifies the concentrations of components (e) and (f).
- 1.1 Dependent claims 10 and 11 in combination with claim 1 as filed disclose a composition *comprising* components (a) to (f) mentioned in claim 1 as granted. Several additional features have thus been included in claim 1 as granted. In particular, the claimed *lubricating composition* is said to *consist of* an oil of lubricating viscosity, components (a) to (f) and optionally one or

more of the components listed under component (g) of claim 1 as granted (II, *supra*).

1.2 The respondent argued (X, *supra*) that the subject-matter of claim 1 as granted resulted from multiple selections within the content of the application as filed. The respondent considered the subject-matter of claim 1 as filed as a first selection from the content of the application as filed. It referred to T 1605/13. Moreover, it especially objected to the replacement of "*comprising*" with "*consisting of*".

1.3 The board notes that T 1605/13 (reasons, 1.1 to 1.10) concerned a case in which the application as filed contained six independent product claims, each characterised by a different combination of features. There was no indication in the application as filed that one of the six alternative embodiments was preferred. The choice of one of the six independent claims as the basis for a subsequent amendment was regarded as a selection among six equally relevant alternatives (reasons, 1.7).

The case at issue is totally different. The application as filed contains claim 1 as the sole independent claim. It is acknowledged that the passage of the application as filed on page 2, lines 15 to 18, as referred to by the respondent, defines the invention in broader terms as compared to claim 1 as filed. However, the board is convinced that claim 1 as filed, being the sole independent claim, directly and unambiguously represents the preferred embodiment of the invention. The same applies to the dependent claims as filed, which have to be regarded as more preferred embodiments within the ambit of claim 1 as filed.

- 1.4 On page 3, lines 20 to 25, the application as filed states that "*the term «lubricating composition» refers to the **combination of an oil of lubricating viscosity plus additives.** [...] If not specifically stated, the oil of lubricating viscosity **makes up the balance of the lubricating composition**" (emphasis added by the board). In view of this disclosure, the replacement of "*lubricating composition comprising*" with "*lubricating composition consisting of*" with the additional inclusion of "*an oil of lubricating viscosity*" does not present the skilled person with any new information.*
- 1.5 It is acknowledged that the above passage on page 3 of the application as filed does not specify which additives are intended. However, the only additive components disclosed subsequent to this passage on page 3 are those cited in claim 1, namely components (a) to (g). As regards component (g), all the lists of the specific additives included as component (g) in claim 1 as granted are disclosed from page 40 to page 48 of the application as filed. Indeed, for each additive specified (i.e. polymers, fluidizing agents, detergents, corrosion and oxidation inhibiting agents, extreme pressure agents, antiwear agents and pour point depressants), the list included in claim 1 as granted corresponds exactly to the list disclosed in the application as filed (page 40, lines 15 to 22; page 45, lines 6 to 17; page 47, line 5 to page 48, line 1). In other words, none of the additives listed in the application as filed has been left out. Thus, the selected lists are directly and unambiguously pointed to in the application as filed.
- 1.6 The upper limit of component (f), the thiadiazole metal deactivator, has been amended from 5% (claim 1 as filed) to 2% in claim 1 as granted. This amendment is

based on page 31, line 28, of the application as filed. Finally, the borated version of dispersant (d) (i) to (v) mentioned in claim 1 as granted as component (d) (vi) is based on page 28, lines 3 to 5, of the application as filed.

- 1.7 The board concludes that when selections have been made, they are directly and unambiguously pointed to in the application as filed as the only possible or preferred selections. Thus, the subject-matter of claim 1 as granted does not extend beyond the content of the application as filed.

Admittance of the new objection under Article 100(c) EPC

2. During the oral proceedings before the board, the respondent raised an objection under Article 100(c) EPC based on the feature "*polyolefin having a kinematic viscosity from 3 to 20 cSt at 100°C*" mentioned among the fluidizing agents required by claim 1 as granted (II, *supra*). This feature was not, the respondent argued, disclosed in the application as filed. It referred to page 45, lines 14 to 31, and to page 38, lines 20 to 21, of the application as filed and put forward that this passage did not provide a valid basis for this feature of claim 1. The respondent's objection rested on the allegation that the term "*poly*"-olefin" used in line 16 of page 45 of the application as filed together with the feature of having a kinematic viscosity from about 3 to about 20 cSt at 100°C would have been interpreted by the skilled person as "*poly-alphaolefin*". Thus the cited passage actually disclosed a **poly-alphaolefin** having a kinematic viscosity from 3 to 20 cSt at 100°C. Hence, it would not be a basis for the feature of a **polyolefin** having a kinematic

viscosity from 3 to 20 cSt at 100°C included in claim 1 as granted.

- 2.1 Up to the oral proceedings, said feature had never been objected to under Article 100(c) EPC. It had in particular never been in dispute that "*poly*"-olefin" in line 16 of page 45 of the application as filed meant "*poly-olefin*" and it had never been argued that it actually had to be read as "*poly-alphaolefin*". As not disputed by the respondent, its objection thus amounted to a new objection under Article 100(c) EPC.

The respondent requested that this new objection be admitted into the proceedings. It brought forward (X, *supra*) that this new objection was a new *argument*. As such, no discretion was available to the board under Article 114(2) EPC for not admitting it.

As set out above, the new objection was raised for the first time during the oral proceedings. It is thus late-filed. According to Article 114(2) EPC, the European Patent Office may disregard facts or evidence which are not submitted in due time by the parties concerned.

- 2.2 The board acknowledged that in view of Article 114(2) EPC, it had in principle no discretion for not admitting late-filed arguments. This was also the conclusion reached e.g. in T 1914/12 (reasons, 7.2.3).
- 2.3 However, the respondent's objection included not only legal but also factual considerations.
- 2.3.1 The legal consideration underlying the objection was the following:

Article 100(c) EPC prejudices the maintenance of the patent as granted if the objected feature of granted



claim 1 is not directly and unambiguously disclosed in the newly cited passage nor in the rest of the application as filed. The direct and unambiguous disclosure has to be judged with the eyes of the skilled person and their common general knowledge available at the priority date of the opposed patent.

- 2.3.2 The factual (and technical) consideration was the following:

What was the skilled person's common general knowledge at the priority date of the contested patent? How would the skilled person apply it to interpret the newly cited passage of the application as filed and what would be the result of this interpretation?

In the case in question, the factual and technical consideration was what the term "*poly*"-olefin" in line 16 of page 45 of the application as filed meant, and the result of this consideration was that it either had to be read as "*polyolefin*" or "*poly-alphaolefin*".

- 2.4 The respondent's allegation that the latter was true, such that the corresponding feature in claim 1 as granted was not based on the application as filed, was not an *argument* but rather an *allegation of a fact*, namely, the *fact* that the skilled person would have interpreted the term "*poly*"-olefin" in line 16 of page 45 of the application as filed as to directly and unambiguously meaning "*poly-alphaolefin*".

Therefore, the respondent's late-filed objection included a new allegation of fact. Thus, the board had under Article 114(2) EPC the discretion not to admit the respondent's late-filed objection.

2.5 This finding was in agreement with T 1914/12 (reasons, 7.1.4). As set out in that decision, a "fact" had to be understood as a piece of (allegedly) factual information, on which a party based its case.

The board's view in the present case was also in line with decisions T 0635/14 (reasons 3.1 to 3.3) and T 1381/15 (reasons 3), where the entrusted boards also regarded late-filed objections as new allegations of facts.

2.6 As the board had the discretion to admit or reject the respondent's late-filed objection, it had to decide how to exercise this discretion. In doing so, it had to take the Rules of Procedure of the Board of Appeal (RPBA 2007) into account. The late-filed objection was brought forward by the respondent during oral proceedings before the board, i.e. at the latest possible stage of the appeal proceedings. It thus represented an amendment of the respondent's case to be dealt with pursuant to Article 13(1) and (3) RPBA 2007.

Under Article 13(1) RPBA 2007, the board exercises its discretion in view of, *inter alia*, the complexity of the new subject-matter submitted, the state of the proceedings and the need for procedural economy.

Under Article 13(3) RPBA 2007, new allegation of facts submitted at oral proceedings shall not be admitted if they raise issues which the board or the other party cannot reasonably be expected to deal with without adjournment of the oral proceedings.

2.7 As set out above, the late-filed objection was based on page 45, lines 14 to 31, as filed. On page 45, line 16, as filed a "*poly*"-olefin having a kinematic viscosity from about 3 to about 20 cSt at 100°C" was disclosed.

In lines 28 and 29 of this page, it was stated that "*The poly-olefins (PAOs) are described above*" and that "*Examples of useful PAOs include those derived from one or more of the above olefins, such as the olefins [sic]*". The respondent argued (X, *supra*) that an explanation of the term "PAOs" was found on page 38, lines 20 to 21, of the application as filed reciting "*polyalpha-olefin (PAO)*".

2.8 Contrary to the respondent's view (X, *supra*), the board considered that the late-filed objection raised complex issues at an extremely late stage of the proceedings. In fact, by admitting this new objection, a factual assessment would have had to be made regarding what the quotation mark in the term *poly*"-olefin mentioned on page 45, line 16 of the application as filed might have meant and whether, on the basis of other passages of the application as filed, this term would have been directly and unambiguously understood by the skilled person as "*polyalpha-olefin*" as submitted by the respondent. In this respect, the passage on page 38 referred to by the respondent actually concerned the oil of lubricating viscosity to be included in the lubricating composition (page 38, line 3), whereas the cited passage on page 45 related to the fluidizing agent (page 45, line 6). The reference in line 29 of page 45 to "*one or more of the **above** olefins, such as the olefins*" did not therefore necessarily refer to the PAOs described on page 38. In fact "*such as the olefins*" as opposed to "*such as alphaolefins*" rather indicated the contrary.

2.9 This completely new assessment of compliance with the issue of added matter at the oral proceedings would also have been contrary to procedural economy. Moreover, the appellant (and the board) could not

reasonably have been expected to deal with it without adjournment of the oral proceedings.

- 2.10 In exercising its discretion under Article 114(2) EPC and with due regard to Article 13(1) and (3) RPBA 2007, the board thus decided not to admit the late-filed objection under Article 100(c) EPC raised by the respondent at the oral proceedings.

Main request - patent as granted - reading of claim 1

3. Claim 1 as granted (II, *supra*) defines a composition including, *inter alia*, component (d)(i) identified as an "*acylated amine*". The parties disagreed on the significance to be given to this feature. Specifically, the respondent argued (X, *supra*) that this term would also encompass phosphorylated salts of acylated amines, such as the phosphorylated dispersant prepared in example 44 of O1 and used in example II of O1.

The board disagrees for the following reasons.

- 3.1 Under component (d), claim 1 as granted defines the dispersant to be, *inter alia*, (i) an *acylated amine* or (vi) a *borated version* of it. In other words, claim 1 distinguishes between an acylated amine *as such* and a product obtained by boronation, i.e. a specific post-treatment, of an acylated amine.

Hence, this wording used in claim 1 to define component (d) restricts the compounds falling under (i) to acylated amines *as such* and does not cover any possible product obtained by *post-treating* an acylated amine. Under (vi), products obtained by boronation of an acylated amine are then specifically encompassed by claim 1.

This reading of component (d)(i) of claim 1 as granted thus excludes, *inter alia*, products, e.g. salts, obtained by phosphorylation of an acylated amine with e.g. phosphorous acid.

- 3.2 The above conclusion is confirmed by the fact that claim 1 as granted when referring to components (a) and (b) specifies "*phosphoric acid ester **or salt***" (emphasis added by the board). In other words, when salts of a given compound are meant to be included, they are explicitly mentioned. Under (d)(i), claim 1 only specifies "*an acylated amine*" whereas salts thereof, such as a phosphorylated acylated amine (which is a salt), are not mentioned.

The respondent's argument (X, *supra*) that claim 1, when referring to detergents, does not mention a boronated version whereas paragraph [0156] of the contested patent does, has no bearing on the above conclusion. A claim must not be necessarily directed to all embodiments mentioned in the description.

- 3.3 The argument of the respondent (X, *supra*) that the boronating post-treatment of an acylated amine mentioned in claim 1 under (d)(vi) had to be seen as merely redundant since the claim cited further redundant components, namely, component (d)(v), can also not be followed.

Component (d)(v) of claim 1 restricts the dispersant to the "*reaction product of a hydrocarbyl substituted carboxylic acylating agent and a polyamine*", i.e. to specific acylated amines. It is true that based on this definition component (d)(v) falls under the definition of component (d)(i) and thus is redundant. However, this does not have any bearing on the conclusion reached under 3.1 above. In fact, component (d)(v) is

still an acylated amine and not a product obtained by post-treating an acylated amine.

- 3.4 Also the argument of the respondent (X, *supra*) that phosphorylated acylated amines were encompassed by claim 1 as granted in view of the reference to document O5 contained in paragraph [0081] of the contested patent cannot be followed.

Paragraph [0081] recites that "*Acylated amines and methods for preparing the same are described*" *inter alia* in document O5. Indeed O5 discloses (abstract, claim 1) that acylated amines are obtained by reacting a carboxylic acylating agent, e.g. a succinic acylating agent, with an amine. O5 (*loc. cit.*) explicitly distinguishes between acylating agents derivatives, e.g. acylated amines, **per se**, and products obtained by **post-treatment** of such derivatives. This is even confirmed in the passage of O5 in column 41, line 48, to column 42, line 5, invoked by the respondent. Here O5 states that "**Another aspect of this invention involves the post-treatment of the carboxylic derivative compositions**" and that "*Acylated nitrogen compositions prepared by reacting the acylating reagents of this invention with an amine as described above are post-treated by contacting the acylated nitrogen compositions thus formed [e.g., the acylated amine] with one or more post-treating reagents*" (emphasis and text in square brackets added by the board). Among the latter, phosphoric acid is mentioned. Therefore, O5 clearly identifies the phosphorylation of an acylated amine as a post-treatment leading to a different product.

- 3.5 The board also disagrees with the respondent (X, *supra*) that a phosphorylated acylated amine was encompassed by

claim 1 as granted since it would form by the *in situ* phosphorylation of the acylated amine defined under component (d) (i) of claim 1 with the sulfur-free hydrocarbyl phosphoric acid ester defined as component (a) of claim 1.

The person skilled in the art would read claim 1 as to encompass reaction products of these two components only if the occurrence of the alleged reaction would either be explicitly mentioned in the claim or implicitly known to the skilled person as part of their common general knowledge.

Claim 1 as granted requires components (a) and (d) (i) to be separate components. It does not mention any reaction product of the two components. The respondent submitted NMR spectra that would prove the occurrence of such a reaction. However, these NMR spectra are not part of the common general knowledge of the skilled person. This was not disputed by the respondent (XI, *supra*). Therefore, even if the submitted spectra had proven the occurrence of a phosphorylation reaction, there is no evidence that the skilled person, when reading claim 1 as granted using common general knowledge, would have recognised that such a reaction implicitly takes place and thus be covered by claim 1. Absent any evidence thereof, this argument of the respondent must also fail.

Main request - patent as granted - novelty under Article 54 EPC and Article 100(a) EPC

4. The respondent objected to the novelty of the subject-matter of claim 1 as granted in view of example II of O1.

- 4.1 It is common ground between the parties that the phosphorylated and boronated ashless dispersant used in the composition disclosed in example II of O1 and said to be prepared according to example 44 of O1 is a phosphorous salt obtained by reacting an acylated amine, i.e. polyisobutenyl succinimide, with boric acid and phosphorous acid.
- 4.2 For the reasons set out under point 3 above, such a phosphorous salt does not fall under the "*acylated amine*" required as component (d) (i) of claim 1 as granted. Furthermore, it does not correspond to any of the further components cited in claim 1. Due to the closed formulation of the composition defined in claim 1 in view of the expression "*consisting of*", such a phosphorous salt is excluded from the subject-matter of claim 1.
- 4.3 Therefore, the board concludes that solely for the presence of said phosphorylated and boronated ashless dispersant, the composition of example II of O1 does not anticipate the subject-matter of claim 1 as granted. Claim 1 is thus novel over example II of O1 (Article 54 EPC).

Main request - patent as granted - inventive step under Article 56 EPC and Article 100(a) EPC

5. The closest prior art

- 5.1 Both parties indicated document O1 and in particular its example II on page 64 as the closest prior art. In view of the issues addressed in O1 and the composition disclosed in its example II, the board sees no reasons to take a different stance.



5.2 In fact, document O1 discloses (page 2, line 15, to page 3, line 4; page 55, lines 22 to 35 and example XVII on pages 68 to 70) lubricating compositions for gear applications aiming at maintaining antiwear and corrosion properties. In particular, it is undisputed that example II on page 64 discloses a lubricating composition comprising components (a) to (c) according to claim 1 as granted as well as one triazole metal deactivator and a thiadiazole metal deactivator.

Therefore, the board regards example II of O1 as a suitable starting point for the assessment of inventive step.

6. The technical problem

6.1 The lubricating composition of example II of O1 contains a phosphorylated and boronated ashless dispersant prepared as described in example 44 of O1. As mentioned under 5 above, the exclusion of this phosphorylated dispersant represents a distinguishing feature of claim 1 at issue.

6.2 The appellant put forward that the technical problem deriving, *inter alia*, from this distinguishing feature had to be seen at least in the provision of an alternative lubricating composition able to maintain load-bearing properties, anti-wear properties and corrosion properties.

7. Success of the claimed solution

7.1 The respondent (X, *supra*) contested this formulation of the technical problem. It argued that the experimental results reported in Annexes A to C might not show any technical effect of a composition according to claim 1. No conclusion could be drawn about the maintenance of

the mentioned properties. In particular, the respondent disputed that Annex C was the right correction of Annex A.

7.2 The board disagrees. Annex C is a document in its own and was filed by the appellant with the statement of grounds of appeal in order to corroborate its case on inventive step under Article 12(2) RPBA 2007. The board has no reasons to doubt about the genuineness of the results shown.

7.3 Annex C reports the results obtained with various lubricating composition in terms of load, wear and corrosion. Load was measured by the Timken OK Load test, having a passing result of 60. Wear was measured by the 4-Ball wear scar test. Corrosion was measured by a copper strip test.

It is undisputed that sample compositions B, E, H, B-1, B-2 and B-3 of Annex C fall under the composition defined by claim 1 as granted and thus do not comprise any phosphorylated acylated amine. The obtained results demonstrate that load-bearing, anti-wear and corrosion properties are maintained by compositions according to claim 1. The board acknowledges that the results obtained for samples B and E, practically of identical compositions, largely differ in terms of both load and wear (55 lbs vs. 70 lbs for the load; 0.3 vs. 0.27 for the wear). However, an average of the obtained values (62.5 lbs for the load and 0.285 for the wear) still permits concluding that the properties were maintained.

Even if, as argued by the respondent, the precision of the tests used is not high, there is no counter experimental evidence on file able to cast serious doubts, based on verifiable facts, that the reported

results were flawed and that the mentioned properties could not be maintained.

As a consequence, the board is convinced that the composition defined in claim 1 as granted successfully solves the technical problem formulated under 6.2 above, which is thus the objective technical problem.

8. Obviousness of the claimed solution

8.1 What remains to be decided is whether, just on the basis of the above identified distinguishing feature of claim 1, namely, the exclusion of the phosphorylated dispersant of example II of O1, an inventive step can be acknowledged.

8.2 The respondent argued (X, *supra*) that non-phosphorylated dispersants would have been well known to the skilled person, see e.g. document O2, so that the skilled person seeking an alternative composition would have replaced the phosphorylated dispersant of the closest prior art with any such alternative dispersant, including those encompassed by claim 1.

8.3 The board disagrees. In document O1 (page 2, lines 22 to 45; page 3, line 41 to page 6, line 56; claim 1), the presence of a phosphorylated dispersant is presented as an essential feature of the described compositions. All examples I to XVI (pages 64 to 68) disclosing lubricating compositions include such a phosphorylated dispersant. The same applies to example XVII on pages 68 to 70, in which the properties of a lubricating composition according to the invention of O1 (page 68, lines 45 to 50) were tested.

8.4 The board does not dispute that other, non-phosphorylated dispersants would have been known to the

skilled person. However, starting from example II of O1 and seeking to solve the posed technical problem, i.e. to maintain load, anti-wear and corrosion properties, the skilled person would not have considered removing the phosphorylated dispersant since it was presented in the whole disclosure of O1 as an essential component of the described compositions. The skilled person would rather have modified other components of the composition of the closest prior art not presented as essential therein.

- 8.5 The board thus comes to the conclusion that the exclusion of the phosphorylated dispersant of example II of O1 in claim 1 as granted is based on an inventive step within the meaning of Article 56 EPC.

Admittance of the new objection under Article 56 EPC starting from document O2 as the closest prior art

9. During the oral proceedings before the board the respondent made a new objection under Article 56 EPC based on document O2, specifically on example B on page 12, as the closest prior art. The respondent requested that this new objection be admitted into the proceedings. It brought forward (X, *supra*) that this new objection was a new *argument* based on evidence already on file. As such, no discretion was available to the board for not admitting it. It referred to T 1621/09.

- 9.1 The board notes that document O2 was never specifically relied on by the respondent in the appeal proceedings. In fact, the only possible reference to O2 can be found on page 3 of the reply to the statement of grounds of appeal, wherein, in the section named "*Background of the Appeal*", the respondent generally mentioned "*documents O1-04*" without, however, referring to any

passage of these documents in detail, let alone specifically of O2. In the subsequent pages 3 to 42, the respondent did not mention O2. By way of merely referring to O2 in an entirely unsubstantiated way, O2 does not become part of the appeal proceedings.

9.2 The respondent submitted that O2 had been cited in the notice of opposition. However, this does not mean that this document is automatically part of the appeal proceedings. Under Article 12(2) RPBA 2007, the reply to the statement of grounds of appeal shall contain the party's complete case, expressly specifying all the facts, arguments and **evidence** relied on. Document O2 was not relied on by the respondent in its reply to the statement of grounds of appeal. The reference to O2 as the closest prior art thus amounts to introducing new evidence at a late stage of the appeal proceedings.

9.3 Additionally, the new objection under Article 100(a)/56 EPC that the claimed subject-matter lacks inventive step in view of the specific passages of O2 cited by the respondent included a new allegation of fact, as explained here below.

9.3.1 The respondent argued that example B of O2 was word-by-word identical to example II of O1 except for the replacement of the phosphorylated dispersant of example II with Amoco 9250 additive in the same amount. On page 12, lines 3 to 6, of O2, this Amoco 9250 additive was stated to be "*believed to be a 48% oil concentrate of boronated Mannich base ashless dispersant*". The respondent thus argued that example B of O2 disclosed a composition clearly suggesting the inclusion of a dispersant according to component (d) (vi) of claim 1 as granted as a borated version of component (d) (iii) (II, *supra*).

9.3.2 In the same way as discussed under 2.4 *supra*, this new inventive step objection thus included new allegations of fact, namely, that the trademark "Amoco 9250" mentioned in said example B of O2 would have been understood by the skilled person as a boronated Mannich base ashless dispersant; that this would have corresponded to a borated version of a "Mannich reaction product", i.e. to component (d)(vi) of granted claim 1 when referring to component (d)(iii); and that, on the basis of this disclosure, the skilled person would have arrived at the claimed subject-matter in an obvious way.

9.4 As a consequence, the new inventive step objection was based on new evidence and included new allegations of fact. Thus, the board had under Article 114(2) EPC the discretion not to admit the respondent's new objection into the proceedings.

9.5 The new inventive step objection was brought forward by the respondent during oral proceedings before the board, i.e. at the latest possible stage of the appeal proceedings. It represents an amendment of the respondent's case to be dealt with pursuant to Article 13(1) and (3) RPBA 2007.

9.6 Under Article 13(1) RPBA 2007, the board exercises its discretion in view of, *inter alia*, the complexity of the new subject-matter submitted, the state of the proceedings and the need for procedural economy.

Under Article 13(3) RPBA 2007, new allegation of facts submitted at oral proceedings shall not be admitted if they raise issues which the board or the other party cannot reasonably be expected to deal with without adjournment of the oral proceedings.

9.7 Contrary to the respondent's view (X, *supra*), the new objection raised complex issues at an extremely late stage of the proceedings.

More specifically, had the respondent's new objection been admitted, it would have needed to be discussed whether O2 represents a suitable starting point for the assessment of inventive step. Even if D2 had been concluded to be the closest prior art, further discussion would have been needed. A factual assessment would have had to be made of which compound or mixture of compounds fell under the trademark "Amoco 9250" mentioned in said example B of O2, and, in this context, how the skilled person would have understood the above mentioned sentence ("*is believed to be*") on page 12, lines 3 to 6, of O2 (9.3.1 *supra*). Lastly, what the objective technical problem would have been and whether the skilled person confronted with this problem would have arrived at the claimed subject-matter in an obvious way would also have had to be discussed. This assessment would have needed quite complex and time-consuming further investigations.

9.8 The discussion of these completely new issues for the first time at the oral proceedings would have been contrary to procedural economy. Moreover, the admittance of this new inventive step objection would have led to an entirely *fresh case* to be considered at an extremely late stage of the appeal proceedings for the first time. However, the principal purpose of the appeal proceedings is to review the decision under appeal; not to start new opposition proceedings. The admittance of such a fresh case would normally make remittal to the first instance necessary or, at the very least, would mean adjourning the oral proceedings to give the appellant (and the board) the opportunity

to deal with it appropriately (T 232/08, reasons 2 to 8).

- 9.9 In exercising its discretion under Article 114(2) EPC and with due regard to Article 13(1) and (3) RPBA 2007, the board thus decided not to admit the new inventive step objection of the respondent based on O2 as the closest prior art into the proceedings.
- 9.10 As regards T 1621/09 cited by the respondent, the board notes the following. In that case, a new novelty objection was raised by the appellant for the first time at oral proceedings. This new novelty objection was based on new passages (slides six and thirteen) of a document (D2), which had already been cited against novelty in both opposition and opposition appeal proceedings, albeit on the basis of a different passage (slide seven). The entrusted board identified the new objection as a new *argument* (reasons, 45) and did not admit it.
- 9.11 The new novelty objection based on the newly cited passages included several new factual allegations (Summary of Facts and Submissions, VIII(a), reasons, 13), e.g. that the properties of the components disclosed in these new passages (homogeneous pore structure, smooth outer surface) could only be understood by the skilled person as being achieved by a process including features of the claimed method. The present board takes therefore the view that the new novelty objection put forward by the appellant in T 1621/09 should have been rather considered as a new *allegation of fact*. However, irrespective of taking this different stance, the boards' conclusions in both the case underlying T 1621/09 and the present case are



the same, namely, that the new objections could not be admitted.

### Conclusions

10. The board concludes that the grounds for opposition under Article 100(a) and (c) EPC invoked by the respondent do not prejudice the maintenance of the patent as granted.

### Order

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

1. The appealed decision is set aside.
2. The patent is maintained as granted.

The Registrar:

The Chairman:



N. Maslin

M. O. Müller

Decision electronically authenticated