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**Datasheet for the decision  
of 25 October 2011**

**Case Number:** T 1057/09 - 3.3.01

**Application Number:** 96303905.2

**Publication Number:** 749689

**IPC:** A01N 43/80

**Language of the proceedings:** EN

**Title of invention:**

Avoidance of precipitation in 3-isothiazolone formulations

**Patentee:**

ROHM AND HAAS COMPANY

**Opponent:**

Thor GmbH

**Headword:**

Stabilized 3-isothiazolone composition/ROHM AND HAAS

**Relevant legal provisions:**

EPC Art. 84, 56, 54

**Keyword:**

"Main request and auxiliary request 1 - clarity (no) - wording of claim 9 ambiguous"

"Auxiliary request 2 - novelty (yes)"

"Alleged prior use - (no) - No clear and unambiguously determination of the information disclosed during the oral presentation of the thesis. Special relationship between the student and the staff of the sponsoring chemical company - No proof that confidentiality was breached - Thesis was not displayed on the library shelves of the "Fachhochschule"

"Inventive step (yes) - deterrent prior art"

**Decisions cited:**

T 1085/92, T 1212/97, T 0012/01, T 0667/01, T 1081/01

**Catchword:**

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Case Number: T 1057/09 - 3.3.01

**DECISION**  
of the Technical Board of Appeal 3.3.01  
of 25 October 2011

**Appellant:**  
(Opponent)

Thor GmbH  
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**Representative:**

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**Respondent:**  
(Patent Proprietor)

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**Representative:**

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**Decision under appeal:**

Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
23 February 2009 concerning maintenance of  
European patent No. 749689 in amended form.

**Composition of the Board:**

**Chairman:** P. Ranguis  
**Members:** J.-B. Ousset  
C.-P. Brandt  
C. M. Radke  
D. S. Rogers

## Summary of Facts and Submissions

I. The opponent lodged an appeal against the decision of the opposition division to maintain the European patent N° 0 749 689 on the basis of an amended main request.

II. Relevant prior art is represented by the following cited documents:

- (1) Diplomarbeit of Mr. Rüdiger Baum, "Untersuchung von Einflußgrößen auf die Stabilität von 5-Chlor-2-methylisothiazolin-3-on", Fachhochschule für Technik in Mannheim, Speyer 1993.
- (2) EP-A-0 425 143
- (3) US-A-3 870 795
- (6) Product description "KATHON®WT: water treatment microbicide", Rohm and Haas Company, France 2000.  
20 pages
- (10) Prof. Palmer's declaration of 6 April 2006, one page
- (13) Mr. Baum's declaration of 5 April 2006, one page
- (25) D. Leonhard, "Erklärung zur Vorlage beim Europäischen Patentamt", Hochschule Mannheim, 16 June 2008
- (29) Mr. Baum's declaration of 8 February 2010, two pages
- (30) "Diplomvortrag" (Anlage B), written version of Mr. Baum's presentation, six pages.
- (35) Mr. Hans-Jürgen Schmidt's testimony of 14 October 2008 before the department of first instance.

III. The opposition division found that none of the cited documents could question the novelty of the claimed subject-matter. Moreover, the person skilled in the art

would not find any incentive in the cited prior art documents to arrive at the claimed invention without inventive ingenuity. Finally, the requested corrections in the description were refused, since these alleged errors were not obvious.

IV. The current decision is based on the following set of claims:

claims 1 to 9 of the main request, enclosed with the letter dated 6 October 2008;  
claims 1 to 9 of the first auxiliary request;  
claims 1 to 7 of the second auxiliary request, and  
claims 1 to 4 of the third auxiliary request, where all the claims of the auxiliary requests were filed under cover of the letter dated 16 November 2009.

Claim 9 of the main request reads as follows:

"Use of  $\text{Cu}^{2+}$  ion to reduce or prevent the formation of precipitate in a formulation containing from 0.1 to 20 wt% of a 3-isothiazolone and 0.1 to 25 wt% of a metal nitrate and from 1 to 10 ppm of cupric ( $\text{Cu}^{2+}$ ) ion."

Claim 9 of the first auxiliary request reads as follows:

"Use of 1 to 10 ppm of  $\text{Cu}^{2+}$  ion to reduce or prevent the formation of precipitate in a formulation containing from 0.1 to 20 wt% of a 3-isothiazolone and 0.1 to 25 wt% of a metal nitrate."

Claim 1 of the second auxiliary request reads as follows:

"Composition comprising:

- a) from 0.1 to 20 wt% of a 3-isothiazolone
- b) from 0.1 to 25 wt% of a metal nitrate
- c) from 1 to 10 ppm of cupric ( $\text{Cu}^{2+}$ ) ion
- d) a solvent."

Claim 1 of the third auxiliary request reads as follows:

"Composition comprising:

- a) from 12 to 16 wt% of a 3-isothiazolone
- b) from 12 to 25 wt% of magnesium nitrate
- c) from 1 to 5 ppm of cupric ( $\text{Cu}^{2+}$ ) ion
- d) a solvent."

V. The appellant (opponent) argued as follows:

- It was not obvious from the wording of claim 9 of the main request and the first auxiliary request whether the amount of copper referred to the added or to the total amount. Therefore, these claims were not clear.
- In 1993, document (1) was handed over to Mr. Schmidt, manager of Thor who is to be considered as a member of the public.
- The content of document (1) was rendered public on 11 May 1993 during a presentation. During said

public presentation, it was disclosed, that a very small amount of  $\text{Cu}^{++}$  increased the stability of 5-chloro-2-methylisothiazolin-3-one.

- The increase of stability of 5-chloro-2-methylisothiazolin-3-one in the presence of a small amount of  $\text{Cu}^{++}$  was one of the main results of the thesis.
- Kathon<sup>®</sup> WTA as mentioned in [0004] of the patent in suit or document (6) represented the closest prior art.
- The experimental data on page 32 of document (1) showed that the problem has not been solved over the whole claimed scope.
- Document (2) described biocidal compositions containing 3-isothiazolone derivatives and  $\text{Cu}^{++}$ . Moreover, further salts could be added. Document (2) referred to document (3) for this purpose. The latter disclosed amounts of additional nitrates which overlapped with the range mentioned in the present invention.

VI. The respondent (patentee) argued as follows:

- The wording of claim 9 of the main request and the first auxiliary request was clear. It recited that 1-10 ppm of  $\text{Cu}^{++}$  was based on the other constituents. This amount of  $\text{Cu}^{++}$  represented the total amount of copper.

VII. The appellant requested that the decision under appeal be set aside and that the European patent No. 749689 be revoked.

VIII. The respondent requested that the appeal be dismissed and the patent be maintained either on the basis of the main request found patentable by the opposition division or on the basis of one of the three auxiliary requests, all filed with the letter of 16 November 2009.

IX. At the end of the oral proceedings, the decision of the board was announced.

### **Reasons for the Decision**

1. The appeal is admissible.

#### *Main request*

2. Clarity of the claims

2.1 In opposition appeal proceedings, the examination of clarity is limited to cases where the alleged lack of clarity is caused by amendments after grant. Claim 9 has been amended during opposition proceedings by inserting in granted claim 10 the feature "and from 1 to 10 ppm of cupric (Cu<sup>2+</sup>) ion". Therefore, it may be assessed whether this amendment affects the clarity of claim 9.

2.1.1 According to this claim, Cu<sup>2+</sup> is used to prevent or reduce the formation of precipitate. This wording leaves open whether the amount of Cu<sup>2+</sup> ions refers to

the one added to the composition or whether it refers to the 1 to 10 ppm of  $\text{Cu}^{2+}$  ion present in the composition.

- 2.1.2 The respondent argued that the claim was clear in view of paragraph [0008] of the patent in suit.

The reference to the description of the patent in suit does not remove this ambiguity. Lines 44 and 45 on page 2 mention "...the use of  $\text{Cu}^{2+}$  ion to reduce or prevent the formation of precipitate in such a formulation...". However, it remains ambiguous whether the formulation referred to is the one before or after the incorporation of 1 to 100 ppm of  $\text{Cu}^{2+}$  ions mentioned in line 44.

- 2.2 Hence, claim 9 does not fulfil the requirement of clarity set out in Article 84 EPC. Consequently, the main request is rejected.

*First auxiliary request*

3. Clarity of the claims

- 3.1 Claim 9 of the first auxiliary request has been amended by inserting "1 to 10 ppm" between "of" and " $\text{Cu}^{2+}$  ion".

- 3.1.1 The wording of claim 9 recites that 1 to 10 ppm of  $\text{Cu}^{2+}$  ions are used to prevent or reduce the formation of precipitate. However, the formulation can additionally to the 3-isothiazolone and the metal nitrate also contain an additional source of  $\text{Cu}^{2+}$  ions (e.g. the preferred metal nitrate, i.e. magnesium nitrate, may contain  $\text{Cu}^{2+}$  ions as an impurity. Therefore, the same



reasoning as recited under point 2.1.1 above applies to this claim.

- 3.2 Claim 9 does not fulfil the requirement of clarity set out in Article 84 EPC. Consequently, the request is rejected.

*Second auxiliary request*

4. Neither the appellant nor the board have objections in relation with Articles 123(2), (3) and 84 EPC.

5. Novelty

- 5.1 The appellant/opponent alleged that before the priority date of the patent in suit the invention had been made available to the public pursuant to Article 54(2) EPC through the "diploma thesis" (document (1)). It was contended that the content of the "diploma thesis" was disclosed during the oral presentation (hereinafter "Colloquium") at the Fachhochschule Mannheim on 11 May 1993 and by handing over of a copy of the diploma thesis to Prof. Dr. Palmer and to Mr. Hans-Jürgen Schmidt in May 1993 (hereinafter disclosure "Schmidt").

- 5.2 "Colloquium"

It has to be decided whether the information content that was presented during the "colloquium" was such as to destroy the novelty of the patent in suit and, if necessary, whether the oral examination was open to the public.

5.3 Concerning the content of the disclosure, the evidence relied on to establish the information content conveyed to the public by an ephemeral disclosure, such as a lecture or an oral presentation, must be such that the Board is certain beyond any reasonable doubt that a particular piece of information was made available to the public. In the present case the Board is not convinced beyond any reasonable doubt that the specific piece of information concerning the use of a low concentration of copper in isothiazolone formulations as a stabiliser and in particular Fig. 6 of the diploma thesis (1) has been clearly and unambiguously disclosed during the colloquium (see document (1), page 32, paragraph 4.3.3 in conjunction with page 28, "10% Actacid 14").

5.4 In its communication dated 13 May 2011 the Board has drawn the parties attention to decision T 1212/97 of 14 May 2001 (not published in the OJ EPO), which had to resolve the question whether there is any safe and satisfactory evidence as to the information content of what was made available to the public by a lecture. The present board holds that the principles set out in T 1212/97 (affirmed by T 12/01 of 2 December 2003, point 20 of the reasons; T 667/01 of 15 February 2006, point 2. of the decision) apply to the present case.

5.5 In T 1212/97 (see in particular point 3.), the Board did not consider evidence from the lecturer alone as being satisfactory evidence as to what was made available to the public at the lecture. The present board agrees with the approach of the board in T 1212/97. For this reason alone the declarations of Mr. Baum submitted during the written procedure

concerning the content of his oral explanations during the colloquium as well as his respective testimony cannot be regarded as sufficient evidence of which information and details have clearly and unambiguously been conveyed to the "audience" at the colloquium. The present board considered that no useful purpose would be served in summoning Mr. Baum again as a witness, since further evidence from him would not serve to make up for the lack of evidence from the "audience" at the colloquium.

- 5.6 When the question to be resolved is whether there is any safe and satisfactory evidence as to the information content of what was made available to the public by a lecture or an oral presentation, information appearing in written notes made at the lecture by at least two members of the audience can usually be regarded as sufficient, whereas information in the notes of a single member of the audience might be inadequate as reflecting the thoughts of the listener rather than the content of the lecture (T 1212/97 point 4. of the reasons).
- 5.7 Apart from the declarations of Mr. Baum (13) and (29) there is only one further single statement stemming from the "audience" of Mr. Baum's oral presentation during the colloquium, namely the declaration of Prof. Dr. Palmer of 6 April 2006 (document (10)), who was one of the two examiners. He stated "... dass ich, ...zum Thema dieser Diplomarbeit ... ein .... Kolloquium durchgeführt habe, bei dem die Ergebnisse der schriftlichen Diplomarbeit von Herrn Rüdiger Baum im Detail erörtert wurden". This is a general statement which cannot be regarded as sufficient evidence of

which technical details were made available to the "audience" and whether those results which are relevant with regard to the assessment of the patentability of the patent in suit had been discussed. In addition, this is evidence from only a single member of the "audience" which is regarded as inadequate to serve as evidence for the content of the oral presentation (see T 1212/97 point 4. of the reasons).

5.8 In T 1212/97 (point 4. of the reasons) the board further held that if the lecturer read his lecture from a typescript or manuscript the written version might be taken as some evidence of the contents of the lecture, though with some caution as there would be no guarantee that a script was completely and comprehensibly read. With its letter dated 8 March 2010 the appellant filed a written declaration E3 (document (29)) of Mr. Baum dated 8 February 2010 and as "Anlage B" a written version (30) of Mr. Baum's oral presentation at the colloquium which would reflect nearly the exact wording of his lecture. Apart from the fact that the patentee/respondent has raised objections and doubts as to the availability of the format "Microsoft Works 4.0." in which "Anlage B" had allegedly been generated in May 1993 this document has to be left out of consideration, since this document has been regarded as late filed and has therefore not been admitted in the present appeal proceedings.

5.9 In the annex to the summons to oral proceedings dated 13 May 2011, the board had already indicated that according to its preliminary opinion the documents filed with the appellant's letter dated 9 March 2010 (inter alia "Anlage B") were regarded as being late-

filed and would probably not be admitted in the proceedings.

However, the appellant also failed to put forward any convincing reasons on the occasion of oral proceedings why such an important document as the alleged written version of his lecture held at the colloquium had not been submitted earlier, in particular with the notice of opposition of 9 May 2006 or with the statement of grounds of appeal of 29 June 2006 at the latest (See Article 12(4) RPBA). Taking into account the filing of this document at a relatively late stage of the proceedings and in view of the remaining doubts as set forth in the respondent's letter dated 29 July 2010 as to the availability in May 1993 of the format "Microsoft Works 4.0." in which "Anlage B" had allegedly been generated, the board exercises its discretion according to Articles 12(4) and 13(1) RPBA not to admit document (30) ("Anlage B") in the proceedings.

5.10 Since for the reasons given above it cannot be established beyond any reasonable doubts that during the colloquium technical information was made available to the "audience" that is allegedly contrary to the patentability of the patent in suit, the subsequent question whether the colloquium was open to the public is no longer relevant for the decision in this appeal case and therefore does not need to be answered.

5.11 Disclosure "Schmidt":

5.12 It has not been disputed by the patentee that a copy of the diploma thesis (document (1)) was handed over to

Mr. Schmidt by Mr. Baum on the day of the colloquium on 11 May 1993 at the latest and thus clearly before the priority date of the patent in suit. Thus Mr. Schmidt was able to gain knowledge of the content of document (1).

Document (1) (see page 32, paragraph 4.3.3.) discloses compositions in which the stability of CIT is investigated in a 10% aqueous solution of Actacid 14 and different amounts of  $\text{Cu}^{2+}$  (see page 32, paragraph 4.3.3., essays 6 to 8; corresponding to feature "c)" of claim 1). The 10% Actacid 14 used in the said compositions is a solution containing 15% of magnesium nitrate (see document (1), page 28, lines 6-7; corresponding to feature "b)" of claim 1) and 14% of IT (corresponding to a mixture of 25% MIT, namely 2-methylisothiazolin-3-one and 75% CIT, namely 5-chloro-2-methylisothiazolin-3-one, see page 8, lines 9-10). These 14% IT correspond to feature "a)" of claim 1. The water being present in Actacid 14 corresponds to feature "d)" of claim 1. Consequently, document (1) discloses in combination all the features of claim 1 of the second auxiliary request.

- 5.13 However, the question arises whether the content of document (1) was made available to the public. This would not be the case if Mr. Schmidt was at that time under an obligation to maintain secrecy regarding the content of the diploma thesis. Such an obligation may be based on an explicit or a tacit agreement or may stem from the circumstances of the case and derive from the principle of good faith and mutual trust. According to the Case Law of the Boards of Appeal information cannot be regarded as made available to the public for

the purpose of Article 54(2) EPC and the recipient of that information cannot be treated as a member of the public, if at the time of receipt of the information he is in some special relationship to the donor of the information (T 1081/01 of 27 September 2004, point 7. of the reasons, not published in the OJ EPO).

5.14 It could not be ascertained that there was any explicit secrecy agreement between the parties involved. However, based on the special circumstances and facts underlying the present case the board considers that there was such a special relationship in the sense of T 1081/01 between Mr. Baum and Mr. Schmidt and Thor GmbH. As a consequence of these circumstances Mr. Schmidt cannot be regarded as part of the public. Thus Mr. Baum, by handing over a copy of the diploma thesis to Mr. Schmidt, did not make the technical information content of document (1) available to the public pursuant to Article 54(2) EPC. There is also no evidence that Mr. Schmidt or other members of the staff of Thor made available technical information stemming from the diploma thesis (document (1)) to the public (see below points 5.19, 5.20).

5.15 The conclusion that there was a special relationship between Mr. Baum and Mr. Schmidt and Thor, of which Mr. Schmidt was and still is the managing director, and also responsible for research and development, is in particular based on the results of the hearing of the witnesses before the opposition division. The following circumstances and facts are essential and decisive for the assumption of this special relationship.

- 5.16 Mr. Baum was employed by Thor GmbH before he started his academic education. After he had finished his academic education and passed his diploma exam he was again hired in May 1993 and since then has been employed by Thor GmbH as a chemical engineer. In the course of his studies at the Fachhochschule Mannheim Mr. Baum made his traineeship ("Praxis-Semester") and the "Diplom-Semester" with the company Thor. During his studies Mr. Baum was not employed by Thor GmbH but was sponsored by the company.
- 5.17 The subject of the diploma thesis pertains to the field of isothiazolone, **and in particular the stabilisation of isothiazolone-containing formulations by copper ion**, which also belongs to the business and research activities of the company Thor GmbH. Mr. Schmidt stated in his testimony that the results found by Mr. Baum could be used for further formulations, even if the results of the diploma thesis were not commercialized and not made the subject of a patent application. The diploma thesis was developed in close collaboration with the company Thor. Mr. Baum declared in his witness statement that he discussed technical issues of his diploma thesis and exchanged views with Mr. Zinser, the then Head of the Research and Development division of Thor, as well as with Mr. Schmidt, who was also concerned with isothiazolone-products. Mr. Schmidt declared that it is crucial when assigning a subject-matter for a diploma thesis to a student that there is a synergy effect between the diploma thesis and the concerns of the company. He explained in his testimony that the 5-chlor-2-methylisothiazolinone, which was one of the main subject-matters of the diploma thesis was a very important product for Thor. The stabilisation of



formulations was a special issue which was important for Thor's clients, and that Mr. Baum had indeed come to some new findings regarding stabilising agents, which have also been used for further formulations.

5.18 The close relationship between Mr. Baum and the company Thor/Mr. Schmidt is also evidenced in the sponsoring of Mr. Baum by Thor during his academic education and the drawing up of his diploma thesis. Mr. Schmidt stated (see document (35)) that it was in the interest of the company to promote the education of its employees and that sponsorship enabled the employees to complete their academic education and Thor to have better qualified employees.

5.19 From the circumstances and facts mentioned above it emerges that there has been a special relationship between Mr. Baum and Thor and Mr. Schmidt mainly based on the previous and subsequent employment of Mr. Baum at Thor GmbH, the importance of the subject-matter of Mr. Baum's diploma thesis for the company and the sponsoring of Mr. Baum by Thor GmbH during his academic education. This close occupational relationship gave rise to a relation of mutual trust and confidence. Thus it would contravene accepted commercial practices if one would assume that Thor or Mr. Schmidt felt completely free to, or could be expected to readily disclose the technical subject-matter and technical details of the diploma thesis to the public or third parties without any secrecy obligation. In fact, it is normally in a company's interest to keep research results, such as in Mr. Baum's diploma thesis, in confidence, since they constitute the company's know-how and the basis for future products. It has neither

been proven nor does it appear to be credible that Thor or Mr. Schmidt provided such information to the public.

- 5.20 It has not been suggested that Mr. Schmidt or the staff of Thor GmbH actually made available the technical content of document (1) to members of the public. Mr. Schmidt testified that the results of the diploma thesis have of course been discussed intra-company. However, the staff of a company is normally not regarded as being member of the public, unless there is proof to the contrary (T 1085/92 of 10 November 1994).
- 5.21 Mr. Schmidt stated that the technical content of document (1) was also discussed with Thor's service technicians and chemical engineers, who are involved in the support service and in the advising of customers. However, it has not been alleged by the opponent that any technical information stemming from the diploma thesis (document (1)) was made available to any members or other persons outside of Thor.
- 5.22 Furthermore, according to the declaration (document (25)) of Mr. Leonhard (Rector of the Fachhochschule Mannheim) dated 16 June 2008 the diploma thesis of Mr. Baum has not been made available to the public by putting it on the library shelves of the Fachhochschule Mannheim. This has not been disputed by the appellant/opponent.
- 5.23 The provision of a copy of the diploma thesis to Prof. Dr. Palmer does not render the content thereof publicly available either, since the professor grading the thesis cannot be regarded as a member of the public.

After all it can not be established that the content of document (1) belongs to the state of the art pursuant to Article 54(2) EPC.

5.24 Since document (1) does not represent a prior art document according to Article 54 EPC and since the board as well as the appellant agrees that no other cited document calls into question the novelty of the claimed subject-matter, the board concludes that the subject-matter of the claims of the second auxiliary request is novel (Article 54 EPC).

6. Inventive step

6.1 The appellant considered document (6) as closest prior art. This document has been published in 2000 and thus does not form part of the prior art. Moreover, it is questionable whether the composition marketed under the registered trade mark mentioned in this document is identical to the one available under this trade mark before the priority date of the patent in suit. Furthermore, the appellant also referred to the content of the description of the patent in suit (see [0004]) mentioning KATHON<sup>®</sup> WTA containing 1.5 wt% isothiazolone, 1.7 wt% magnesium nitrate and 150-200 ppm of copper nitrate (see page 1, lines 24 to 29 of the originally filed description) to define the closest prior art. However, it was not shown that KATHON<sup>®</sup> WTA, a product marketed by the respondent, was made available to the public before the priority date of the patent in suit, i.e. that it forms part of the prior art of the patent in suit.

Document (2) discloses compositions in which the 3-isothiazolone has been stabilized (see page 3, lines 35 to 37) and which are used as microbicides. Moreover, these compositions contain from 0.0001 to 10 parts of a metal salt (see page 5, lines 54 to 55). Said metal salt can be copper alkanoate (see page 5, lines 38 to 39 and Tables 1 and 2). An amount of solvent ranging from 65 to 98.9 parts (see page 5, line 56) as well as an isothiazolone, which amount ranges from 0.01 to 50 parts (see page 5, line 54) are also present in the compositions of document (2). This document further teaches that the stabilization advantages of the metal salts are retained when other salt stabilizers are present (see page 6, lines 3 to 5). This additional salt stabilizer can be found in document (3) and can be magnesium nitrate (see (1), column 6, line 5; (3) column 6, lines 16 and lines 25 to 28) as confirmed by Example 1 of document (2) (see page 6, lines 34 to 35). Hence, document (2) discloses all the constituents of the composition of claim 1 of the patent in suit. Moreover, the ranges of the amounts of the different constituents of the composition claimed in claim 1 of the patent in suit are embraced in the ranges defined in document (2).

For these reasons, the board considers that document (2) represents the closest prior art.

- 6.2 The problem to be solved in the light of the closest prior art is the provision of an alternative microbicide stabilized composition.

- 6.3 In view of the experimental results listed in Tables 2 to 5 of the patent in suit, the board considers that this problem has been solved.
- 6.3.1 As mentioned previously (see point 6.1), the subject-matter of the patent in suit is embraced in the scope of document (2). It is, however, evident from document (2) that "The amounts of stabilizing metal salt compounds employed will vary depending on... concentrations of the isothiazolone in the composition." (see page 5, lines 52-53). Hence, this document requires that "in concentrated solutions, effective amounts of metal salt relative to isothiazolone are in the ratios of from 1:50 to about 50:1. Obviously higher amounts may be used, but at additional costs." (see page 5, line 58, to page 6, line 1). This gives a clear indication to the person skilled in the art that the concentration of metal salt, e.g. of copper salt in the examples, should not be below 1/50 of the concentration of isothiazolone. For the minimum concentration of 0.1 wt% of a 3-isothiazolone according to present claim 1, the respective minimum concentration of copper salt would be  $0.1 \text{ wt\%} / 50 = 20 \text{ ppm}$ . Therefore, the person skilled in the art would have found no incentive in document (2) alone or in combination with any other document to further lower the amount of  $\text{Cu}^{2+}$  to 1 to 10 ppm when seeking to solve the problem recited in point 6.4 above.
- 6.4 The subject-matter of claim 1 of the second auxiliary request is thus based on an inventive step (Article 56 EPC). Since claims 2 to 7 are all dependent on claim 1, they are thus also inventive.

6.5 Since the second auxiliary request fulfils the requirements of the EPC, a decision of the board on the third auxiliary request is superfluous.

## **Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the second auxiliary request (claims 1-7) as filed with the letter dated 16 November 2009 after any consequential necessary amendment of the description.

The Registrar

The Chairman

M. Schalow

P. Ranguis