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**Datasheet for the decision  
of 15 January 2019**

**Case Number:** T 0237/16 - 3.3.10  
**Application Number:** 09772979.2  
**Publication Number:** 2318053  
**IPC:** A61L2/18, A61L2/22, A61L9/01,  
A61L9/14, A61L101/22  
**Language of the proceedings:** EN

**Title of invention:**

METHOD FOR DISINFECTING A ROOM AND OBJECTS CONTAINED THEREIN  
AND DISINFECTING COMPOSITION

**Applicant:**

99 Holding S.A.R.L

**Headword:**

**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

Inventive step - (yes)

**Decisions cited:**

T 1808/06, T 1883/11

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
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Case Number: T 0237/16 - 3.3.10

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.10**  
**of 15 January 2019**

**Appellant:** 99 Holding S.A.R.L.  
(Applicant) 18 Rue de l'Eau  
1449 Luxembourg (LU)

**Representative:** Biggi, Cristina  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 17 June 2015  
refusing European patent application No.  
09772979.2 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** P. Gryczka  
**Members:** M. Kollmannsberger  
W. Van der Eijk

## Summary of Facts and Submissions

I. The appellant (applicant) appealed against the decision of the examining division of 17 June 2015 to refuse the application 09772979.2.

II. The documents referred to by the examining division in its decision were:

D7: EP 1 382 666

D8: "Quality and Safety: added values of the disinfection process executed in critical sites with hydrogen peroxide and silver cations

D9: 99 Technologies, S.A.; Infection prevention through the use of the 99MS disinfection system, In vivo efficacy tests - Peru

D10: Clostridium difficile infection incidence in tertiary hospital.

III. In its decision the examining division concluded that claim 12 of the then pending main request was not inventive over the disclosure of D7. The difference of this claim compared to the disclosure of D7 was the omission of peracetic acids from the disinfecting solution. No data being present in the application, let alone comparative data with D7, it could not be concluded that the claimed compositions achieved similar, let alone better disinfection effectiveness than the solutions disclosed in D7. The data presented in D8-D10 was not considered convincing already since the detailed composition of the disinfection solutions used was not described. The examining division defined the technical problem to be solved as the provision of a simpler disinfecting solution which is less irritant. Finally, it concluded that the claimed solution was obvious, since it was generally known and e. g.

reported in the introductory part of D7, that aqueous solutions containing silver ions and hydrogen peroxide alone can be used for disinfection.

IV. Together with the grounds of appeal the appellant filed a new main and auxiliary request. Claim 1 of the main request reads:

*An aqueous disinfecting solution consisting of:*

- (a) 3 to 10% by volume of hydrogen peroxide;*
- (b) 40 to 120 mg/kg of silver ions ( $Ag^+$ ), wherein said silver ions are added in the form of  $AgNO_3$  or  $Ag_2SO_4$ ;*
- (c) 20 to 200 mg/kg of phosphate and/or hydrogen phosphate ions, wherein said phosphate ions are added in the form of  $H_3PO_4$  and said hydrogen phosphate ions are added in the form of  $KH_2PO_4$ ;*
- (d) 0.1 to 2 g/kg of at least one non-ionic surfactant selected from: ethoxylated fatty alcohols, ethoxylated fatty acids, esters of ethoxylated fatty acids, or mixtures thereof;*
- (e) at least one complex phosphate or phosphonate selected among potassium pyrophosphate, sodium orthophosphate, sodium tripolyphosphate, sodium hexametaphosphate, sodium hydroxy ethylidendiphosphonate and mixtures thereof, in an amount not higher than 300 mg/kg;*
- (f) water.*

Claim 2 of the main request defines the use of such a solution for disinfecting a room. The auxiliary request contained only the use claim.

Furthermore, the appellant filed comparative experiments concerning the disinfecting properties of compositions representing D7 (solution A) and two compositions as claimed (solutions B and C).

He argued that these experiments show an increase in bactericidal efficacy leading to a lower concentration of disinfecting solution necessary to achieve the same disinfecting effect.

The appellant defined thus the problem to be solved as providing a disinfecting composition for the disinfection of rooms which is more effective than the solution disclosed in D7. Since none of the available prior art documents taught that the omission of the acid/peracid system would increase bactericidal efficacy the claimed solution was inventive.

V. In a communication dated 26 November 2018 the board raised questions about the relevance of the comparative data. In particular the board questioned whether any improvement shown could be related to the differentiating features of the claims with respect to D7, or to the differences in the nature and/or concentration of the surfactants used.

VI. With submission of 11 January 2019 the appellant commented on the relevance of the comparative data. In particular he provided arguments why the concentration of the surfactants as well as the presence of an additional emulsifier in small amounts have no influence on the bactericidal effect. He explained the lesser efficacy of the solutions disclosed in D7 by the negative effect of the combination of the two strong oxidants on the surface of the room to be disinfected.

He filed adapted descriptions corresponding to the claims of the main and the auxiliary request.

Furthermore he renounced to the oral proceedings scheduled for 15 January 2019 and requested a decision in writing on the basis of the requests on file.

VII. The final requests of the appellant were that the decision be set aside and that a patent be granted on the basis of the claims of the main or auxiliary request filed together with the grounds of appeal and the description filed with submission of 11 January 2019.

VIII. The oral proceedings took place on 15 January 2019 in the absence of the appellant. At the end of the oral proceedings the decision was announced.

### **Reasons for the Decision**

1. The appeal is admissible.
2. Amendments (Art. 123(2) EPC)

Claim 1 of the main request corresponds to claim 14 of the main request on which the decision of the examining division was based. The examining division stated in its decision that the claims of the then main request complied with Article 123(2) EPC.

The board agrees. In particular, claim 1 of the main request is based on original claim 9, the different ingredients have been specified according to pages 8/9 of the description. As pointed out by the examining division, the claim defines all categories of ingredients mentioned in the description with the exception of the additional metal ions disclosed on page 9 lines 23-25, which are however optional. The

amendment of "comprising" to "consisting of" finds thus a direct and unambiguous basis in the description. The presence of water (feature(f)) is directly and unambiguously derivable from original claim 9 defining aqueous solutions.

Claim 2 of the main request is based on original claim 20 with the corresponding amendments. The volumetric concentration is disclosed on page 10, lines 14/15.

3. Inventive step (Article 56 EPC)

3.1 The claims are directed to an aqueous disinfecting solution and to its use for disinfecting a room by delivering the solution in the form of a dry mist in a volumetric concentration of 1 to 5 ml/m<sup>3</sup>.

D7 is likewise directed to aqueous disinfecting solutions for the disinfection of rooms which are to be applied as a dry mist. D7 discloses such a solution in example 5 and its use for disinfecting a room in example 6.

In the first instance proceedings D7 was considered as the document representing the closest state of the art and the board agrees.

3.2 The composition defined in claim 1 of the present main request differs from the compositions disclosed in D7 in the absence of the carboxylic acid/peracid system that is a mandatory feature in D7 (see e. g. claim 1 of D7).



- 3.3 Starting from D7 the appellant defined the technical problem to be solved as the provision of solutions for disinfection with increased bactericidal efficacy.
- 3.4 Together with the statement of grounds of appeal, the appellant filed experiments comparing a solution according to example 5 of D7 (solution A) with two solutions according to the present claim (solutions B and C). When these solutions are tested for bactericidal efficacy in a room disinfection test it turns out that solutions B and C have a higher bactericidal activity than solution A.

The board had expressed doubts whether this improvement can be related to the differentiating features of the claims with respect to D7, i. a. the absence of the carboxylic acid/peracid system or to the differences in the nature and/or concentration of the surfactants used.

As a reaction to this the appellant stated that the surfactants used were the same and that an additional small amount of an emulsifier present in solutions B and C as well as the higher overall concentration of the surfactants had no influence on the bactericidal effect. He explained that higher efficacy of the claimed solutions compared to the ones in D7 may be due to the lower overall concentration of strong oxidants in the claimed compositions which reduces the tendency of oxidation of the surfaces as well as the probability of precipitation of silver oxide or silver carbonate from the solution.

In the board's view these arguments can be accepted so that the comparative experiments filed show an increase of bactericidal efficacy related to the absence of carboxylic acids/peracids in the claimed solutions as opposed to the ones disclosed in D7.

Consequently, the problem defined by the appellant has been solved by the claimed compositions, i. e. by omitting the carboxylic acids/peracids from the solutions of D7.

3.5 The claimed solution was not obvious from the prior art. In D7 the carboxylic acids/peracids are a mandatory feature of the compositions, see e. g. [0022]. There is no disclosure anywhere in D7 nor in any other of the documents cited during the proceedings from which a man skilled in the art would have inferred that the omission of the carboxylic acids/peracids from a composition additionally containing hydrogen peroxide and silver ions would lead to an increase in bactericidal efficacy in the disinfection of rooms.

3.6 Thus, claim 1 of the main request complies with the requirements of Article 56 EPC. Claim 2 is likewise inventive since it refers to the use of the inventive composition defined in claim 1.

4. Adaption of the description (Article 84 EPC)

4.1 According to Article 84 EPC, second sentence, the claims must be supported by the description. According to established jurisprudence of the Boards of appeal this means that inconsistencies between the claims and the description need to be removed (see e.g. decision T 1808/06, section 2 of the Reasons, see also T 1883/11).

The appellant has filed an amended description said to be adapted to the claims of the main request.

However, it appears that there are still major inconsistencies between the claims and the description. The amended description e. g. states on the passage bridging pages 8 and 9 that additional metal ions may be present in the composition, which is clearly excluded by the "consisting of"-language of the claims. Also the absence of chloride ions (page 10 lines 4ff) appears to be mandatory according to the claims, rather than "preferred". Also the volumetric concentrations defined on page 10 lines 13ff do not appear to match the definition given in claim 2 of the main request.

4.2 Furthermore, R. 42(1)(b) stipulates that prior art useful to understand the invention should be cited in the description. However, the document representing the closest prior art, D7 is not discussed at all in the description.

4.3 Thus, the board remits the case to the examining division for the adaptation of the description to claims 1 and 2 of the main request (Article 84 EPC) and the compliance of the description with Rule 42(1)(b) EPC.

**Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to grant a patent on the basis of claims 1 and 2 of the main request and with the description to be adapted.

The Registrar:

The Chairman:



C. Rodríguez Rodríguez

P. Gryczka

Decision electronically authenticated