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**Datasheet for the decision  
of 8 July 2011**

**Case Number:** T 2006/09 - 3.3.01

**Application Number:** 03009283.7

**Publication Number:** 1357159

**IPC:** C09D 11/00

**Language of the proceedings:** EN

**Title of invention:**

Liquid ink and recording apparatus

**Patentee:**

Toshiba TEC Kabushiki Kaisha, et al

**Opponent:**

-

**Headword:**

Liquid ink/TOSHIBA

**Relevant legal provisions:**

EPC Art. 123(2), 84

RPBA Art. 13

**Relevant legal provisions (EPC 1973):**

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**Keyword:**

"Clarity (no) - "parts by weight" - unclear expression in the absence of the mention of a common amount of references"

**Decisions cited:**

T 1129/97, T 0002/80

**Catchword:**

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Case Number: T 2006/09 - 3.3.01

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.01  
of 8 July 2011

**Appellant:** Toshiba TEC Kabushiki Kaisha  
1-1, Kanda Nishiki-cho, Chiyoda-ku  
Tokyo 101-8442 (JP)

**Representative:** Hrovat, Andrea  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 4 May 2009  
refusing European patent application  
No. 03009283.7 pursuant to Article 97(2) EPC.

**Composition of the Board:**

**Chairman:** C. M. Radke  
**Members:** J.-B. Ousset  
L. Bühler

## Summary of Facts and Submissions

- I. An appeal was lodged against the decision of the examining division to refuse European patent application No. 03 009 283.7.
- II. The examining division found that the then pending main and auxiliary requests 1 to 3 contravened Article 123(2) EPC. Moreover, the claims of the main request as well as of auxiliary requests 1 and 2 lacked clarity and their subject-matter was considered as not novel in view of the disclosure of document (10)= JP 08 143806.
- III. During oral proceedings before the board, the appellant withdrew all the requests then on file and submitted a new main request as well as three new auxiliary requests on which the present decision is based.
- IV. Claim 1 of the main request reads as follows:

"1. A liquid ink jet ink comprising a solvent and a coloring component, dispersed in the solvent, a photo acid generating agent, generating an acid upon irradiation with light, and wherein the solvent contains at least one kind of a solvent that is polymerized in the presence of an acid, which at least one solvent is an aromatic oxetane compound, wherein an alicyclic epoxy compound and an aliphatic or alicyclic oxetane compound having a valency of at least 2 are added, wherein the aromatic oxetane compound is present in an amount of 0 to 40 parts by weight, wherein the alicyclic epoxy compound is added in an amount of no larger than 50 parts by weight,

wherein the total amount of oxetane compound is at least 40 parts by weight based on the total amount of liquid ink,  
wherein the total amount of the compounds having an alicyclic and an aromatic skeleton is at least 30 parts by weight."

Claim 1 of the first auxiliary request differs from the wording of claim 1 of the main request in that the expression "A liquid ink jet ink" has been replaced by the expression "A liquid ink".

Claim 1 of the second auxiliary request reads as follows:

"1. A liquid ink jet ink comprising a solvent and a coloring component, dispersed in the solvent, a photo acid generating agent, generating an acid upon irradiation with light, and wherein the solvent contains at least one kind of a solvent that is polymerized in the presence of an acid, which at least one solvent is an aromatic oxetane compound, wherein an alicyclic epoxy compound and/or an aliphatic or alicyclic oxetane compound having a valency of at least 2 are added,  
wherein the aromatic oxetane compound is present in an amount of 0 to 40 parts by weight, wherein the alicyclic epoxy compound is added in an amount of no larger than 50 parts by weight,  
wherein the total amount of oxetane compound is at least 40 parts by weight based on the total amount of liquid ink,

wherein the total amount of the compounds having an alicyclic and an aromatic skeleton is at least 30 parts by weight."

Claim 1 of the third auxiliary request differs from the wording of claim 1 of the second auxiliary request in that the expression "A liquid ink jet ink" has been replaced by the expression "A liquid ink".

V. The appellant argued as follows:

- The expression "parts by weight" present in all requests was clear, because the person skilled in the art would understand that the said expression referred to the total amount of solvent. An interpretation on another basis did not make sense. Only the total amount of oxetane derivatives was based on the liquid ink.

VI. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request or of one of the three auxiliary requests filed during oral proceedings before the board.

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

### **Reasons for the Decision**

1. The appeal is admissible.

#### Admission of the late-filed requests

2. The requests on file were filed during oral proceedings, and thus at a late stage in the proceedings. The board considers however that these requests represent a fair attempt to overcome the objections raised on the basis of Article 123(2) EPC. Moreover, they do not raise any further objections which could have led to an adjournment of the oral proceedings.

Consequently, the board admitted these requests into the proceedings (Article 13 RPBA).

3. The board finds that it is not necessary to verify whether these requests fulfil the requirements of Article 123 EPC, since they all fail for the following reasons.

#### Clarity

4. According to Article 84 EPC, the claims must define the matter for which protection is sought. A consequence thereof is that the claims must be clear in themselves when read by the person skilled in the art, without any reference to the content of the description (see T 2/80, OJ EPO 1981, 431, point 2, and T 1129/97, OJ EPO 2001, 273, point 2.1.2).
  - 4.1 Claim 1 of each request defines the amounts of several components or group of components by ranges given in "parts by weight" without indicating a common amount of reference (such as 100 parts by weight of the solvent or of the total ink). In the absence of such a common amount of reference, the weight of one part by weight

of a first component may differ from the weight of one part by weight of a second component, thereby rendering the ranges vague and the claims unclear.

4.2 The appellant argued that it was evident to the person skilled in the art that the "parts by weight" in the claims referred to 100 parts by weight of the solvent, except for the total amount of oxetane derivatives (see under point V above). However, the appellant has provided no evidence in support of this argument; nor does the board see any reason why the person skilled in the art might not equally consider the "parts by weight" to be based on 100 parts by weight of the total ink.

4.3 Although any reference to the content of the description cannot overcome this objection of lack of clarity of the wording of the claims (see point 4 above), the board would like to emphasise that even if such a reference to the description was made, it would not have helped to remove this lack of clarity. On page 29, lines 12 to 18, 22 to 28 of the application as originally filed, the expression "parts by weight" is based on the weight of solvent. However, it is mentioned on page 39, lines 10 to 15 that when the solvent consists of the epoxy compound alone, then the amount is based on the entire liquid ink. On page 45, lines 21 to 25, the minimum amount of 40 parts by weight of the total addition amount of oxetane compound is based on the amount of liquid ink. Furthermore, the amount of kneaded mass referred to in this part of the description (see page 112, lines 12 to 14) is based on an epoxy compound.

Consequently even if the content of the description was considered, the content of said description would not provide the person skilled in the art with the appropriate information allowing him to remove the lack of clarity in the claims.

4.4 Therefore, the appellant's argument mentioned in point IV above fails.

4.5 Hence, the board concludes that claim 1 of each request on file contravenes Article 84 EPC.

## **Order**

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

1. The appeal is dismissed.

The Registrar

The Chairman

M. Schalow

C.M. Radke