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**Datasheet for the decision
of 5 July 2007**

Case Number: T 0578/03 - 3.3.05

Application Number: 01113324.6

Publication Number: 1166853

IPC: B01D 53/94

Language of the proceedings: EN

Title of invention:
Exhaust gas purifying catalyst

Applicant:
MITSUBISHI JIDOSHA KOGYO KABUSHIKI KAISHA

Opponent:
-

Headword:
Movement block layer/MITSUBISHI

Relevant legal provisions:
EPC Art. 84

Keyword:
"Clarity (no)"

Decisions cited:
-

Catchword:
-



Case Number: T 0578/03 - 3.3.05

D E C I S I O N
of the Technical Board of Appeal 3.3.05
of 5 July 2007

Appellant: MITSUBISHI JIDOSHA KOGYO KABUSHIKI KAISHA
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Tokyo 108-8410 (JP)

Representative: Böck, Bernhard
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 9 December 2002
refusing European application No. 01113324.6
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: M. Eberhard
Members: J.-M. Schwaller
S. Hoffmann

Summary of Facts and Submissions

- I. The appeal was lodged against the decision of the examining division to refuse the European patent application No. 01133324.6. The decision was based on claims 1 and 3 submitted with the letter dated 2 October 2002 and claims 2 and 4-10 as originally filed.
- II. The contested decision *inter alia* held that the subject-matter of claim 1 then on file lacked clarity and thus did not meet the requirements of Article 84 EPC. By using the wording "... *an effect inhibiting material for inhibiting a movement of said absorbent agent on said three-way-catalyst layer (40) ...*" and "*an absorbent agent block layer (30) for inhibiting movement of said absorbent agent ...*", the claim attempted to define the subject-matter in terms of a result to be achieved. Such a definition was only allowable under the conditions set out in the Guidelines C-III, 4.7. In the present case, such a formulation was however not allowable because, without carrying out undue experimentation, the skilled person could not derive from the wording with which materials the technical problem was solved.
- III. With the grounds of appeal, the appellant filed a new set of claims 1-5 as the sole request.
- IV. In a communication, the board observed *inter alia* that in claim 1 the feature "*an absorbent movement block layer for inhibiting movement of said absorbent agent to said three-way catalyst layer*" did not appear to meet the requirements of clarity because the result to

be achieved defined therein was inconsistent with the statement at page 5, line 35 to page 6, line 11 of the description. According to this statement, the absorbent agent moved from the absorbent catalyst layer 20 to the three-way catalyst layer 40 and thus the "*absorbent agent movement block layer*" appeared to be at least partially inefficient as regards its absorbent agent movement blocking effect. Furthermore, since the description neither described a test or procedure allowing to verify directly and positively the "movement inhibiting effect" of the absorbent movement block layer, nor indicated a degree of efficiency for the said effect, the requirements of Article 84 EPC were thus not met.

- V. On 21 June 2007 the appellant submitted a new set of claims 1-4 in replacement of the previous one. Claim 1 reads as follows:

"1. An exhaust gas purifying catalyst which includes a carrier (10, an NO_x absorbent catalyst layer (20) and a three-way catalyst layer (40), and in which said NO_x absorbent catalyst layer (20) contains an absorbent agent selected at least one of potassium (K) and barium (Ba), said exhaust gas purifying catalyst wherein said three-way catalyst layer (40) contains an acid material (60) for transforming into a stable substance by reacting to said absorbent agent, said acid material (60) includes at least one of silica (SiO₂), tungsten (W) and phosphorus (P), an absorbent agent movement block layer (30) for at least partially inhibiting movement of said absorbent agent to said three-way catalyst layer (40) is formed between said NO_x

absorbent catalyst layer (20) and said three-way catalyst layer (40)."

VI. During the oral proceedings, which took place on 5 July 2007, the clarity of the feature "absorbent agent movement block layer (30) for at least partially inhibiting movement of said absorbent agent to said three-way catalyst layer (40)" was discussed in particular.

VII. Regarding this issue, the appellant argued that functional features or features defining a result to be achieved were generally accepted by the EPO. The feature under discussion was precisely such an acceptable feature since its function was clearly understandable for a person skilled in the art. The description furthermore clearly disclosed not only the function of the absorbent agent block layer (30) but also the structure and the components of this layer. Accordingly, a person skilled in the art may determine by routine test procedures which do not require undue experimentation which degree of efficiency may be achieved by the different components described in the original specification.

Concerning the clarity of the term "*inhibit*", the appellant argued that this term did not necessarily mean to exclude completely that any absorbing agent may move from layer (20) to layer (40), but meant that the movement of the absorbent agent was reduced at least partially. If the movement of the absorbing agent would have been excluded completely, the "inhibiting" acid material (60) in the layer (40) would not have been necessary. So it was quite clear for a person skilled

in the art that, if he wanted to attain the object of the present invention - i.e. to produce an exhaust purifying catalyst with a NO_x absorbent function and a three-way-function as a single catalyst - he had to use an absorbent agent block layer to inhibit at least partially or reduce the movement of the absorbent between the layers (20) and (40).

VIII. The appellant requested that the contested decision be set aside and that a patent be granted on the basis of the set of claims filed on 21 June 2007.

Reasons for the Decision

Clarity

1. The "*absorbent agent movement block layer (30)*" specified in claim 1 being neither defined by its structure nor by its composition, but by means of the result to be achieved, namely "*for at least partially inhibiting movement of said absorbent agent to said three-way catalyst layer (40)*", the question arises whether this definition for said block layer (30) is clear for a person skilled in the art.
2. In this respect, it has to be checked whether the above result to be achieved is one which can be directly and positively verified by tests or procedures adequately specified in the description or known to the person skilled in the art and which do not require undue experimentation (see also the Guidelines for Examination in the EPO, C-III, 4.7, to which the appellant's attention was drawn in the contested

decision, in the board's communication and at the oral proceedings).

3. The board observes that the description of the present application describes no such test or procedure, nor indicates any of the operating conditions such as the type of engine, the driving cycle, the type of fuel, the temperature, the exhaust gas composition and the analytical method to be used by the skilled person to verify the occurrence of a "partial movement" of the absorbent agent K and/or Ba to the three-way catalyst layer (40). Furthermore, the expression "*at least partially inhibiting movement*" does not constitute a clear definition of the lower limit for the degree of inhibition to be obtained, so that the result to be achieved is itself not clearly defined.
4. In the absence of any instruction or guidance in the present description as to which test should be used, it remains to be investigated whether a test or procedure for verifying without undue experimentation the above result to be achieved is known to the person skilled in the art.

Having been questioned on that issue at the oral proceedings, the appellant was not able to describe such a test or procedure. He could also not indicate any document wherein such a test or procedure would have been disclosed.

5. In its written submissions, the appellant argued that the description clearly disclosed the function, the structure and the components of the absorbent agent movement block layer (30) at page 4, line 29 to page 5,

line 10. Accordingly, a person skilled in the art may determine by routine test procedures which do not require undue experimentation which degree of efficiency may be achieved by the different components described in the original specification.

This argument is not convincing for the following reasons. To meet the requirements of Article 84 EPC, the claim itself has to be clear, however in the present situation the allegedly clear features - such as for instance the zeolite as a component of the layer (30) - are recited in the description but not in claim 1. As pointed out above, a claim defining a feature by a result to be achieved may be considered to meet the requirements of Article 84 EPC if this result can be directly and positively verified by a test adequately specified in the description or known to the skilled person and which does not require undue experimentation. This is however - as explained above - not the case for the claimed feature.

6. Under these circumstances and for the reasons indicated above, the definition of the absorbent agent movement block layer (30) in terms of a result to be achieved in claim 1 is considered to lack clarity and is thus not allowable. Claim 1 therefore does not meet the requirements of Article 84 EPC.

7. In the absence of a set of claims satisfying the requirements of Article 84 EPC, a patent cannot be granted.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

C. Vodz

M. Eberhard