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Datasheet for the decision of 5 June 2013

Case Number: T 2495/12 - 3.3.05

Application Number: 05775478.0

Publication Number: 1786543

IPC: B01D 53/94

Language of the proceedings: EN

Title of invention:
Reducing agent composition

Applicant:
Kemira Oyj

Headword:
Reducing agent/KEMIRA OYJ

Relevant legal provisions:
EPC Art. 54(3)(4)

Keyword:
"Novelty (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 2495/12 - 3.3.05

D E C I S I O N
of the Technical Board of Appeal 3.3.05
of 5 June 2013

Appellant: (Applicant)
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Decision under appeal:
Decision of the Examining Division of the European Patent Office posted 25 July 2012 refusing European patent application No. 05775478.0 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: J.-M. Schwaller
Members: H. Engl
P. Guntz

Summary of Facts and Submissions

I. European patent application EP 05775478.0, published as WO-A-2006/013 229, is concerned with reducing agent compositions comprising urea and ammonium formate and their use in the catalytic reduction of nitrogen oxides.

II. Among the documents cited in the International search report, the following one is relevant for the present decision:

D3: WO-A-2004/069 385 (published 19 August 2004).

III. The European patent application was refused by a decision of the examining division, posted with letter dated 25 July 2012, because of lack of novelty having regard to document D3.

IV. The applicant's (appellant's) notice of appeal was received by letter dated 19 September 2012. The statement of grounds of appeal, dated 7 November 2012, was accompanied *inter alia* by new claims 1 to 10.

Independent claim 1 thereof is worded as follows:

"1. Use of a reducing agent composition in the catalytic reduction process of nitrogen oxides from the exhaust gases of a diesel vehicle, characterised in that the reducing agent composition contains 20 - 35% of urea calculated on the weight of the composition, 25 - 35 % of ammonium formate calculated on the weight of the composition, and water, and that the composition yields ammonia to the reduction process in an amount exceeding 0.21 kg/kg of the composition."

V. In an annex to the summons for oral proceedings, the board provisionally gave a negative opinion on the question of novelty in view of document D3.

VI. By letter dated 3 June 2012 the appellant declared that it would not attend the oral proceedings and would not submit any further written submissions.

VII. The appellant argued in writing essentially as follows:

Document D3, which was an application from the same applicant, described compositions comprising ammonium formate and urea. Of the 13 examples, only 7 contained both urea and ammonium formate, and only one example fell within the compositional ranges as defined in the claims. Said example did not mention which of the compositions were potentially useful for use in diesel vehicles.

Claim 1 further stated that the composition must yield ammonia in an amount of more than 0.21 kg/kg of the composition. Said feature was not present in D3.

The claimed invention was not an arbitrary selection of ranges for ammonium formate and urea, but specifically developed for use in a diesel vehicle. It offered technical advantages and was a selection invention in relation to the disclosure of D3.

VIII. Requests

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis

of claims 1 to 10, filed with letter dated 7 November 2012.

Reasons for the Decision

1. Amendments

Claim 1 is based on original claim 12 in combination with features taken from claims 3 and 7, and from the description, page 3, line 7.

It thus meets the requirements of Article 123(2) EPC.

2. Prior art

Document D3 was published on 19 August 2004 and claims the priority of 4 February 2003. It designates most of the contracting states of the application under appeal. Therefore, D3 forms part of the state of the art under the provisions of Article 54(3)(4) EPC.

3. Novelty

3.1 Document D3 discloses a catalytic process for reducing nitrogen oxides NO_x contained in effluent gases of combustion processes, such as in a diesel exhaust gases, by using an additive composition comprising, *inter alia*, a reducing agent, such as urea, and ammonium formate. The concentration of the reducing agent, of which urea is a preferred example, in the composition is 1 to 40% by weight, preferably 10 to 30% by weight. The concentration of ammonium formate is 1 to 60%, preferably 10 to 50%, more preferably 35 to 45% of

weight. Water may additionally be present as a solvent or diluent. See page 1, lines 5 to 9; page 2, line 31 to page 3, line 11; page 3, line 32 to 34; claims 1, 2 and 5 to 8.

According to D3, ammonium formate is effective in lowering the freezing point of aqueous formulations of urea. It is therefore advantageous to use aqueous compositions containing urea and ammonium formate especially in diesel vehicles operating in cold climate and at low temperatures (cold start). The reducing reaction may be carried out between minimum temperatures of 120°C and maximum temperatures of 700°C. See page 4, lines 2 to 6; page 4, lines 26 to 28; page 5, line 36; claims 3 and 4.

3.2 A particular composition disclosed in D3 comprises 30% of urea and 30% ammonium formate (see page 5, line 36). From the experimental data in Tables 1 and 2 of the present application (pages 6 and 7) it can be derived that such a composition would yield NH_3 in an amount of 0.25 kg/kg, that is exceeding the claimed value of 0.21 kg/kg. This claim feature is therefore implicitly disclosed in D3.

3.3 By consequence, the subject-matter of at least claim 1 lacks novelty having regard to what is specifically disclosed in the above-mentioned example of D3. The subject-matter of claim 1 also lacks novelty having regard to the more general disclosure of D3, in particular the description passages from page 2, line 35, to page 3, line 11, page 4, lines 6 and 7, and claims 1, 6, 7 and 8.

Said claim 1 is therefore not allowable pursuant to Article 54(3)(4) EPC.

3.4 As there is no allowable request on file, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar The Chairman

C. Vodz J.-M. Schwaller