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ENTSCHEIDUNG / DECISION

vom / of / du 15 March 1983

Anmelder:
Applicant: Texas Alkyls, Inc.
Demandeur :

Stichwort:
Headword:
Référence :

EPÜ / EPC / CBE Article 52 (1), 56

"Inventive Step - reliability of prior art"

Leitsatz / Headnote / Sommaire

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Case Number: T 116/ 82

DECISION

of the Technical Board of Appeal 3.3.1

of 15 March 1983

Appellant: Texas Alkyls, Inc.
Deer Park
Texas 77536
U S A

Representative: Dr. Walter Kraus
Patentanwälte
Dres. Kraus & Weisert
Irmgardstr.15
8000 München 71

Decision under appeal: Decision of Examining Division 009 of the European Patent Office dated 17 February 1982 refusing European patent application No 79103641.1 pursuant to Article 97(1) EPC

Composition of the Board:

Chairman: D. Cadman

Member: H. Robbers

Member: L. Gotti Porcinari

Summary of facts and submissions

I. European patent application No. 79 103 641.1, filed on 25 September 1979, published on 14 May 1980 (publication No. 0 010 613), claiming priorities of 28 September 1978 and 5 April 1979, based upon the American applications Serial Nos. 945 665 and 27 205, was refused by a decision of the Examining Division 009 of the European Patent Office of 17 February 1982. The subject of the decision was the set of claims as originally filed.

The ground of the refusal was that the subject matter of the claims did not involve inventive step with reference to US-A-4 069 267.

II. On 13 April 1982, the applicant lodged an appeal against the decision. On 16 June 1982 the appellant submitted a Statement of Grounds. The appeal fee was duly paid.

The claims as originally filed are still effective. They read as follows:

1. A hydrocarbon-soluble composition of matter comprising di-n-butylmagnesium and dimethylmagnesium at a n-butyl:methyl alkyl group ratio of from about 0.2:1 to about 5:1, preferably from about 0.5:1 to about 4:1, most preferably from about 1:1 to about 2:1, to the exclusion of dialkylmagnesium compounds containing alkyl groups other than n-butyl or methyl.

2. A process for the manufacture of a hydrocarbon solution of a dialkylmagnesium composition comprising

(a) reacting, in the presence of a hydrocarbon solvent, magnesium metal with a member selected from the group consisting of a methyl halide in the presence of a magnesium activating agent, and a n-butyl halide,

(b) either simultaneous to step (a) or subsequent thereto, reacting, in the presence of the solvent of step (a), the unselected member of the group of step (a) with further magnesium metal, to form a mixture of a hydrocarbon solution of a dialkylmagnesium composition and undissolved solids, and

(c) separating the hydrocarbon solution from the undissolved solids,

all steps being conducted in the substantial absence of both moisture and oxygen.

3. The process of Claim 2 in which the hydrocarbon solvent is a member selected from the group consisting of aliphatic, cycloaliphatic, and aromatic hydrocarbons containing 5 to 20 carbon atoms, inclusive, preferably having boiling points between about 69°C and about 110°C.

4. The process of Claim 2 in which the magnesium metal is in the powdered state, preferably comprised of particles of diameter equal to or less than about 150 microns.

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5. The process of Claim 2 in which the magnesium metal of step (a) is reacted with a methyl halide in the presence of a magnesium activating agent.

6. The process of Claim 2 in which the magnesium of step (a) is thermally activated at a temperature between about 125°C and about 350°.

7. The process of Claim 2 in which the mole ratio of magnesium to total halides is between about 1.0 and about 2.0, preferably between about 1.1 and about 1.3.

8. The process of Claim 2 in which the methyl halide is methyl chloride and the n-butyl halide is n-butyl chloride.

9. A composition of matter comprising the components

(a) di-n-butylmagnesium,
(b) dimethylmagnesium, and
(c) a solvent selected from the group consisting of aliphatic, cycloaliphatic, and aromatic hydrocarbons containing 5 to 20 carbon atoms, inclusive,

components (a) and (b) being present in quantities relative to each other such that the n-butyl:methyl mole ratio is between about 0.2:1 and about 5:1, to the exclusion of di-alkylmagnesium compounds containing alkyl groups other than n-butyl or methyl.

10. A composition according to Claim 9 in which the solvent is a member selected from the group consisting of aliphatic, cycloaliphatic, and aromatic hydrocarbons

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containing 6 to 15 carbon atoms, inclusive, preferably having boiling point between about 69°C and about 110°C.

11. A composition according to Claim 9 in which the concentration of dialkylmagnesium in the solvent is from about 0.2 weight per cent to about 12 weight percent, preferably from about 1 weight percent to about 5 weight percent, in terms of magnesium.

12. A composition according to Claim 9 in which the n-butyl:methyl alkyl group ratio is from about 0.5:1 to about 4:1, preferably from about 1:1 to about 2:1.

III. The appellant requested that the decision of the Examining Division be revoked and a date for an oral hearing be set if the Board was not disposed to grant. The oral hearing took place on 15 March 1982.

Reasons for the decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is therefore admissible.

2. The decision of the Examining Division is based upon the consideration that the man skilled in the art, on reading column 3 lines 16-26 of the above-cited US-A-4 069 267 would at the very least expect that the three dialkylmagnesiums mentioned (dimethyl, di-n-butyl- and di-isobutylmagnesium) would be mutually solubilising. The applicant has shown that one of the three complexes as meant in this citation, the complex dimethylmagnesium + di-n-butylmagnesium, is hydrocarbon-soluble, which could be expected.

3. The appellant states that the relevant information in the US specification is generally untrue, since three other complexes which are not mutual complexes of the three dialkylmagnesiums mentioned but nevertheless would be included too, were shown to be insoluble. This assertion is based upon a declaration of Lloyd W. Finnan, attached to the Statement of Grounds.

4. The Board of Appeal is unable to accept this reasoning. According to Article 56 EPC, inventive step shall be considered having regard to the state of the art. Only statements in the prior art which are apparently prima facie open to doubt should be contestable. When such a statement is highly pertinent, as in this case, there is no reason to disregard it for the purpose of accessing inventivity, unless it can be shown that the man skilled in the relevant art would have at least suspected that the statement was untrue.

5. In the oral proceedings, it was argued that the above-cited passage should be interpreted in the light of the whole specification. That would imply that only complexes of one of the three dialkylmagnesiums mentioned and a dialkylmagnesium with alkyl groups which contain at least 6 carbon atoms would be intended.

6. The Board of Appeal rejects this reasoning too. The passage clearly refers to the state of the art, since it is presented under the heading: "Background of the invention" and not under the heading "Description of our invention and preferred embodiment thereof" which follows it. The components to be combined in the way suggested clearly belong to these different categories.

Therefore such complexes cannot be considered as being included in the US specification 4 069 267.

7. The Board of Appeal agrees with the consideration upon which the decision of the Examining Division is based. It is obvious in the first place to prepare a complex of these compounds which are mentioned in the state of the art, since hydrocarbon-soluble compositions of a high magnesium content are highly desirable. The solubility of the resulting complex is not surprising since exactly that property would be expected. Since a viscous solution is obtained (cf. examples 1 and 2, especially page 13 lines 3 and 27 of the application as published), neither is the extent of solubility surprising.

8. The objection regarding lack of inventive step applies to all embodiments, whether specific or not, represented in the different claims filed. The Statement of Grounds does not contain any argument in favour of any of them but relates only to the application as a whole. Consequently the subject matter of all claims 1-12 is held not to involve an inventive step.

Order

For these reasons it is decided that the appeal against the decision of the Examining Division 009 of 17 February 1982 is dismissed.

The Registrar: The Chairman:

J. Ilbe

D T Cadman