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**Datasheet for the decision
of 3 April 2009**

Case Number: T 1682/06 - 3.3.03

Application Number: 03741897.7

Publication Number: 1530606

IPC: C08G 77/06

Language of the proceedings: EN

Title of invention:
SILOXANE BISCHLOROFORMATES

Applicant:
Sabic Innovative Plastics IP B.V.

Headword:
-

Relevant legal provisions:
EPC Art. 84

Relevant legal provisions (EPC 1973):
-

Keyword:
"Main request - clarity (no)"
"Auxiliary request - clarity (yes) - remitted to the first instance"

Decisions cited:
-

Catchword:
-



Case Number: T 1682/06 - 3.3.03

D E C I S I O N
of the Technical Board of Appeal 3.3.03
of 3 April 2009

Appellant: Sabic Innovative Plastics IP B.V.
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Representative: Modiano, Micaela Nadia
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Decision under appeal: Decision of the Examining Division of the
European Patent Office dated and posted
30 May 2006 refusing European application
No. 03741897.7 pursuant to Article 97(1) EPC
1973.

Composition of the Board:

Chairman: R. Young
Members: M. C. Gordon
E. Dufrasne

Summary of Facts and Submissions

I. European patent application no. 03741897.7, filed on 10 June 2003 as international application number PCT/US2003/018144, claiming priority of 16 August 2002 from an earlier application US 10/223 030 and published on 26 February 2004 as WO 2004/016675 A1 was refused by a decision of the Examining Division of the European Patent Office dated and communicated in writing on 30 May 2006, taken without oral proceedings.

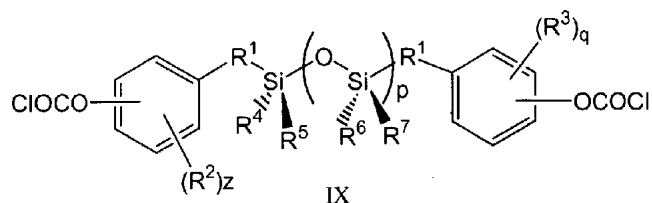
The decision was based on a set of 10 claims filed with a letter dated 20 April 2006.

The decision held that the subject matter of claims 8 and 10 lacked novelty in view of example 6 of the sole document cited in the search report:

D1: WO 02/04545 A1.

Claims 8 and 10 were directed to siloxane bischloroformates and read as follows:

"8. A siloxane bischloroformate comprising structure IX and comprising fewer than 10 percent hydroxy endgroups



wherein R¹ is independently at each occurrence a C₁-C₁₀ alkylene group optionally substituted by one or more C₁-C₁₀ alkyl or aryl groups, an oxygen atom, an oxyalkyleneoxy moiety

-O-(CH₂)_t-O-

or an oxyalkylene moiety

O-(CH₂)_t-

where t is an integer from 2-20;

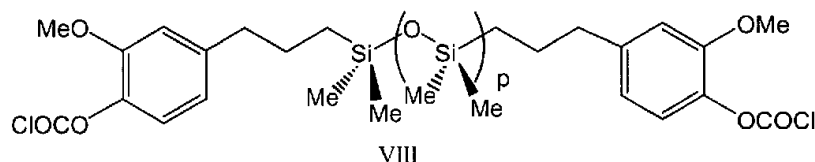
R² and R³ are each independently at each occurrence, halogen, C₁-C₆ alkoxy, C₁-C₆ alkyl, or C₆-C₁₀ aryl;

z and q are independently integers from 0-4;

R⁴, R⁵, R⁶ and R⁷ are each independently at each occurrence C₁-C₆ alkyl, aryl, C₂-C₆ alkenyl, cyano, trifluoropropyl, or styrenyl; and

p is an integer from 1 to 100.

10. A siloxane bischloroformate comprising structure VIII



wherein p is an integer between 1 and 100, said siloxane bischloroformate comprising fewer than 10 percent hydroxy endgroups".

II. A notice of appeal against the decision was filed by the applicant on 2 August 2006, the prescribed fee being paid on the same day.

III. The statement of grounds of appeal was filed on 9 October 2006.

Inter alia it was submitted that the siloxane bisphenols employed to prepare the siloxane

bischloroformates were isomeric mixtures arising in a hydrosilylation reaction. Typically, these isomeric mixtures comprised a single major isomer. The structures given in the application were however idealised structures in that they represented only a major isomer present in said isomeric mixture.

IV. On 14 October 2008 the Board issued a summons to attend oral proceedings.

The summons was accompanied by a communication in which the Board raised objections pursuant to Art. 84 EPC.

- (a) *Inter alia* it was objected that the occurrences of the term "comprising" in claim 8 (see section I above) rendered the scope of the claim unclear.
- (b) In particular it was considered that the effect of the first occurrence of "comprising" (in the preamble of the claim) was to extend the meaning of the term "siloxane bischloroformate" in some non-defined manner beyond the structure specified in the claim. This gave rise to the question as to which other structures were covered by the claim and which not. The consequence was that it was not possible to ascertain the scope of protection sought, contrary to the requirements of Art. 84 EPC.
- (c) Regarding the second occurrence of "comprising", it was noted that it was apparent from the wording of the claim that neither the core structure, nor any of the specified substituents R^1 - R^7 was permitted to bear a hydroxy group. Accordingly the specification of the content of hydroxy groups in the claim introduced an obscurity since it was not related to the subject matter of the claim.

- (d) Objections were also raised with respect to the wording "comprising fewer than 10 percent".
 - (i) Firstly, it was noted that this did not impose any limitation since for example 20 percent would also "comprise" less than 10 percent.
 - (ii) Secondly it was not defined whether this percentage related to weight, mol, endgroups or some other property.
 - (iii) Thirdly this feature applied to the entirety of the composition, i.e. was not limited to molecules of the specified structure. Hence it applied also for example to any alcohols or residual base which might be present.
- (e) The objections raised with respect to claim 8 applied also to claim 10.
- (f) Regarding the submissions made by the appellant in the statement of grounds of appeal with respect to "isomeric mixtures" which comprised a "major isomer" (see section III above) the Board noted that claims 8 and 10 did not contain any corresponding wording.

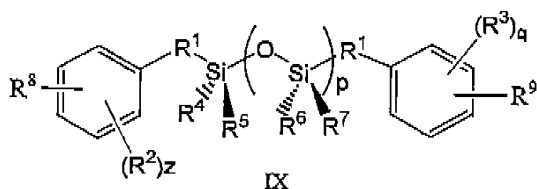
V. With a letter dated 12 December 2008 the appellant submitted amended sets of claims forming a main request and an auxiliary request.

- (a) The appellant submitted that the claims of the main request met the requirements of Art. 84, 123(2) and 54 EPC and consequently requested to be informed whether the oral proceedings could be cancelled.

(b) According to the appellant in the main request, claim 9 was based on the previous claim 8 (see section I above). Claim 10 of the main request, which was dependent on claim 9, had been similarly amended.

Claims 9 and 10 of the newly filed main request thus read as follows:

"9. A mixture of phosgenated siloxane bisphenols of structure IX



wherein R^1 is independently at each occurrence a C_1 - C_{10} alkylene group optionally substituted by one or more C_1 - C_{10} alkyl or aryl groups, an oxygen atom, an oxyalkyleneoxy moiety

$-O-(CH_2)_t-O-$,

or an oxyalkylene moiety

$-O-(CH_2)_t-$,

where t is an integer from 2-20;

R^2 and R^3 are each independently at each occurrence, halogen, C_1 - C_6 alkoxy, C_1 - C_6 alkyl, or C_6 - C_{10} aryl;

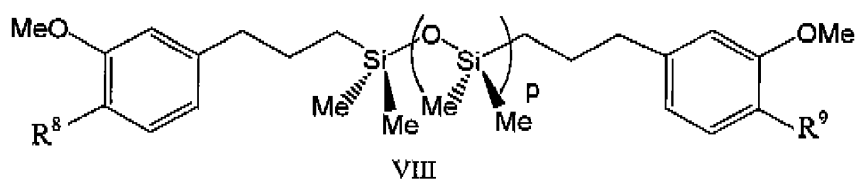
z and q are independently integers from 0-4;

R^4 , R^5 , R^6 , and R^7 are each independently at each occurrence C_1 - C_6 alkyl, aryl, C_2 - C_6 alkenyl, cyano, trifluoropropyl, or styrenyl;

R⁸ and R⁹ are each independently at each occurrence -OCOCl or -OH wherein fewer than 10 mol% of the total of the R⁸ and R⁹ groups in the mixture are -OH; and

p is an integer from 1 to 100.

10. A mixture according to claim 9 of phosgenated siloxane bisphenols of structure VIII



wherein p is an integer between 1 and 100, and R⁸ and R⁹ are each independently at each occurrence -OCOCl or -OH wherein fewer than 10 mol% of the total of the R⁸ and R⁹ groups in the mixture are -OH."

(c) Specifically, the appellant explained the amendments to claim 9 of the main request were based on the former claim 8. The claim now recited a mixture of phosgenated siloxane bisphenols. Compared to former structure IX the chloroformate groups had been replaced by R⁸ and R⁹, defined as being independently at each occurrence -OCOCl or -OH wherein fewer than 10 mol% of the total of said groups was -OH. It was submitted that these amendments were based on the first two lines of the last paragraph on page 5 and on the first paragraph of page 13 of the application. Former claim 8 already recited fewer than 10 percent hydroxy endgroups, reference being made in this connection to original claim 10. The fact that mol % was meant was clear from the statement on

page 13 lines 7-9 of the application that the residual hydroxy endgroups referred to those hydroxy groups present in the starting siloxane bisphenol which were not converted to the corresponding chloroformate groups in the product bischloroformate.

- (d) The appellant submitted that the auxiliary request, restricted to the method claims of the main request, did not contain any claims directed to products and that consequently the objections pursuant to Art. 84 and 54 EPC no longer applied.

VI. With a letter dated 12 January 2009 the appellant submitted an amended request. According to this, it was requested that the Board proceed to reach a decision on the basis of the claims of either the main request or the auxiliary request submitted with the letter of 12 December 2008 (see section V above) on the condition that the case would be remitted to the examining division for further examination.

VII. The appellant requests that the decision under appeal be set aside and that the case be remitted to the first instance for further prosecution on the basis of either the main or the auxiliary request, each as filed with the letter of 12 December 2008, in that order.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. Art. 84 EPC.
 - 2.1 Claim 9 is directed to a "mixture" of phosgenated siloxane bisphenols of structure IX (see section (V).(b) above).
 - 2.1.1 The claim contains a number of variables, for example:
 - (i) the chain length (index "p");
 - (ii) the various substituents, whereby the definitions of some of these in turn contain a number of variables;
 - (iii) the content of endgroups (definition of R⁸ and R⁹).

The claim contains no definition of the extent and scope of the term "mixture", i.e. to which parameter(s) this applies.

- 2.1.2 In the description the term "mixture" is explicitly employed in two different and distinct contexts.
 - (a) On page 3, final paragraph there is a reference to "isomeric mixtures" with respect to the siloxane bisphenols employed to prepare the siloxane bischloroformates, these siloxane bisphenols arising in a double hydrosilylation reaction which is typically a synthetic step in the preparation of siloxane bisphenols. In particular one of the preferred siloxane bisphenols "d-50 eugenol siloxane bisphenol" is a mixture of structures II and X (page 4, first paragraph).

This corresponds to mixtures where the variable is of type (ii) above.

- (b) On page 6 final paragraph it is furthermore disclosed that the siloxane bisphenol employed may be a "single chemical species" or a "mixture of chemical species", specific reference being made to variations in chain length.

This corresponds to mixtures where the variable is of type (i) above.

- 2.1.3 Finally, the presentation of R^8 and R^9 in claim 9 includes the case additionally that the mixture is one where the variable is of type (iii) above, even if the term "mixture" is not explicitly employed in this context.
- 2.1.4 Consequently since there are at least three different possible interpretations of the term "mixture" in claim 9 the defect identified in the communication of the Board that it was not clear which structures were encompassed by the scope of the claim and which not (see section IV.(b) above) has not been overcome.
- 2.2 Accordingly that claim 9 does not meet the requirements of Art. 84 EPC.
- 2.3 As is apparent from the wording of claim 10 (see section V.(b) above), this subject matter contains fewer variables than that of claim 9 in that the nature of the substituents R^2 - R^7 is restricted for all occurrences to methyl. Nevertheless the objections of lack of clarity arising from the use of the term "mixture" in combination with the permitted variabilities in the definition of the end groups and

the chain length as noted for claim 9 (see sections 2.1.1 to 2.1.3 above) apply also to claim 10.

- 2.4 Accordingly the claims of the main request do not meet the requirements of Art. 84 EPC.
3. Since claims 9 and 10 of the main request do not meet the requirements of Art 84 EPC the main request is not allowable.
4. The main request is therefore refused.

Auxiliary request

5. The auxiliary request contains only claims directed to a method; in contrast to the main request the auxiliary request has no claims directed to a product.

Accordingly the objections raised in respect of the claims of the main request do not apply to the claims of the auxiliary request.

6. In the written examination procedure the only aspect considered was the novelty of the subject matter of the product claims (communication of the examining division dated 10 October 2005 and the decision rejecting the application).

No objection to the novelty of the subject-matter of the method claims was raised and the Board sees no reason to raise an objection of its own.

Under these circumstances the Board considers that the appropriate course of action is to remit the case for

further prosecution to the examining division on the basis of the auxiliary request.

Order

For these reasons it is decided that:

- I. The decision under appeal is set aside.

- II. The case is remitted to the examining division for further prosecution on the basis of the auxiliary request (claims 1-8) submitted with the letter of 12 December 2008.

The Registrar:

The Chairman:

E. Görgmaier

R. Young