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**D E C I S I O N**  
of 6 August 2002

**Case Number:** T 0714/00 - 3.3.3

**Application Number:** 93201347.7

**Publication Number:** 0574054

**IPC:** C08L 51/04

**Language of the proceedings:** EN

**Title of invention:**

Flame retardant thermoplastic composition containing an impact-resistant vinyl aromatic copolymer

**Patentee:**

ENICHEM S.p.A.

**Opponent:**

Teijin Chemicals Ltd.

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 123(2)

**Keyword:**

"Amendments - added subject-matter (yes)"  
"Admissibility of late requests - second auxiliary request  
(yes) - third auxiliary request (no)"

**Decisions cited:**

T 0201/83, T 0480/98

**Catchword:**

-



Case Number: T 0714/00 - 3.3.3

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.3  
of 6 August 2002

**Appellant:**  
(Opponent)

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**Decision under appeal:**

Interlocutory decision of the Opposition Division  
of the European Patent Office posted 14 June 2000  
concerning maintenance of European patent  
No. 0 574 054 in amended form.

**Composition of the Board:**

**Chairman:** R. J. Young  
**Members:** P. Kitzmantel  
U. J. Tronser

## Summary of Facts and Submissions

I. Mention of the grant of European patent No. 0 574 054 in respect of European patent application No. 93 201 347.7 in the name of ENICHEM S.p.A., which had been filed on 11 May 1993 claiming an IT priority of 21 May 1992, was announced on 5 March 1997 on the basis of 20 claims, independent Claim 1 reading as follows:

"1. A flame-retardant, halogen-free, thermoplastic composition, classifiable under V0 rating according to the UL 94 V test, comprising: a halogen-free impact resistant vinyl aromatic copolymer, consisting of a vinyl aromatic monomer, an acrylic monomer and a rubber; a halogen-free aromatic polycarbonate, and red phosphorus"

Claims 2 to 20 were dependent on Claim 1.

II. Notice of Opposition requesting revocation of the patent in its entirety on the grounds of Art. 100(a) EPC was filed by Teijin Chemicals Ltd. on 1 December 1997.

The opposition was i.a. based on documents

D1: JP-A-48 85642 (partial translation),

D3: JP-A-61 192643 (partial translation),

D4: JP-A-4 106142 (partial translation),

D5: US-A-5 061 745, and

D6: JP-A-62 25179 (partial translation).

III. By its interlocutory decision orally announced on 18 May 2000 and issued in writing on 14 June 2000, the Opposition Division rejected the opposition and found that the patent as amended met the requirements of the EPC.

IV. The decision was based on a set of 15 claims of the then main request, Claim 1 reading as follows:

"1. A flame-retardant, halogen-free, thermoplastic composition, classifiable under V0 rating according to the UL 94 V test, comprising:

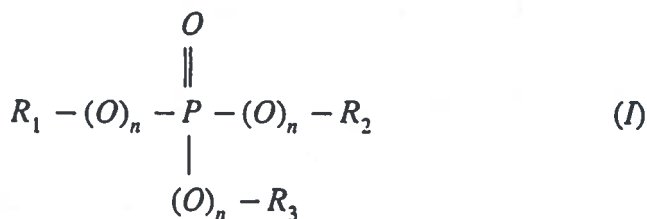
(A) from 70 to 5 parts by weight of an impact-resistant, halogen-free vinyl aromatic copolymer consisting of a vinyl aromatic monomer, an acrylic monomer and a rubber;

(B) from 30 to 95 parts by weight of a halogen-free aromatic polycarbonate;

(C) from 1 to 30 parts by weight, with respect to 100 parts by weight of the mixture of the two (A) + (B) resins, of a grafted polymer consisting of an elastomeric core having a glass transition temperature of the second order lower than 10°C and containing chains of vinyl aromatic monomers grafted thereon;

(D<sub>1</sub>) from 0.1 to 2.1 parts by weight with respect to 100 parts by weight of (A) + (B), of red phosphorus;

(D<sub>2</sub>) from 0 to 15 parts by weight with respect to 100 parts by weight of (A) + (B), of a phosphorus containing organic compound of the formula:



wherein  $R_1$ ,  $R_2$  and  $R_3$  are, independently from each other, an alkyl radical containing from 1 to 8 carbon atoms or an aryl radical or an optionally alkyl substituted aryl radical containing from 6 to 20 carbon atoms, and n represents 0 or 1;

(E) optionally, an anti-dripping agent."

Claims 2 to 15 of this request were dependent on Claim 1.

V. That decision essentially held that

(i) the subject-matter of Claim 1 did not extend beyond the content of the original disclosure in that

(i-1) the range of 1 to 30 parts by weight of grafted polymer component C was supported by Claim 17 and by the statement on page 6, lines 24 to 25 of the patent as granted, and

(i-2) the range of from 0.1 to 2.1 of parts by weight of red phosphorus (component  $D_1$ ) was fairly based, with respect to the lower limit of this range, on granted Claim 2 and, with respect to the upper limit, on the specifically exemplified value of 2.1 of worked Example 4; the generalisation of the latter value was admissible in view of the totality of the worked Examples which all achieved, without the use of halogen-containing flame retardants, the required V0 rating and also showed that an enhanced impact resistance could be achieved with low amounts of red phosphorus and independent from any specific combination of components A, B and C as well as independent from any specific amount of the organic phosphorus compound  $D_2$ ;

- (ii) the claimed subject-matter was novel and
- (iii) non-obvious over document D1, which differed from the claimed compositions by the absence of a grafted polymer component C, by the use of higher amounts of red phosphorus (component D<sub>1</sub>) and by the possible addition of halogen-containing flame retardants, because none of the further citations could, in combination with D1, suggest the solution of the existing technical problem, namely the provision of flame-retardant (i.e. V0 rating according to UL 94 V), impact-resistant thermoplastic compositions which were free of halogen:
  - (iii-1) D3 failed to teach the use of red phosphorus in the claimed amounts,
  - (iii-2) the compositions of D4 did not comprise polycarbonate, red phosphorus and an organic phosphorus compound in the required amounts,
  - (iii-3) the compositions of D5 did not comprise an impact resistant vinyl aromatic copolymer (component A) nor red phosphorus (component D<sub>1</sub>), and
  - (iii-4) the compositions of D6 did not comprise a flame retardant.

VI. On 11 July 2000 the Opponent (Appellant) lodged an appeal against the interlocutory decision of the Opposition Division and paid the appeal fee on the same day. The Statement of Grounds of Appeal was submitted on 13 September 2000.

VII. The Respondent (Proprietor of the patent) defended the opposed patent on the basis of a main and three auxiliary requests filed with the letter dated 20 June

2002 (main and first auxiliary request) and at the oral proceedings held on 6 August 2002 (second and third auxiliary request).

(i) Claim 1 of the main request differs from the version of Claim 1 underlying the decision under appeal (cf. point IV) by

- the replacement in the definition of component A of the term "an acrylic monomer" by "acrylonitrile", and
- by a minor rearrangement of the definition of component C as well as by addition of the underlined passage in the following quotation:

"(C) from 1 to 30 parts by weight ... of a grafted polymer consisting of an elastomeric core ... and grafted thereon chains of vinyl aromatic monomers and a methacrylate selected from methyl methacrylate and 1,3-butylene glycol dimethacrylate".

(ii) Claim 1 of the first auxiliary request differed from Claim 1 of this main request by the following changes in the ranges of amounts of the respective components:

- component A: "from 5 to 30 parts by weight",
- component B: "from 70 to 95 parts by weight",
- component C: "from 1 to 10 parts by weight", and

- component D<sub>2</sub>: "from 5 to 15 parts by weight".

(iii) Claim 1 of the second auxiliary request differs from the Claim 1 of the first auxiliary request by the restriction of the definition of component D<sub>2</sub> to triphenylphosphate.

(iv) Claim 1 of the third auxiliary request differs from Claim 1 of the second auxiliary request by the further restriction of

- component A to "an impact-resistant, halogen-free vinyl aromatic copolymer consisting of 67.5 % by weight of styrene, 10.5 % by weight of polybutadiene rubber and 22 % by weight of acrylonitrile";
- component B to "a halogen-free aromatic polycarbonate consisting of Sinvet<sup>(R)</sup> (PC) polycarbonate"; and of
- component C to "a grafted polymer consisting of 60 % by weight of a core of polybutadiene rubber on which chains of styrene-methylmethacrylate copolymer (ratio 1:1) are grafted in an amount of 40%".

VIII. The arguments presented by the Appellant may be summarized as follows:

(i) **Objections under Article 123 EPC**

**Claim 1, main request**



(i-1) Apart from features of original Claims 2, 3 and 17 this claim comprised amended ranges of amounts of the red phosphorus component D<sub>1</sub> ("0.1 to 2.1 parts by weight") and of the grafted polymer component C ("1 to 30 parts by weight").

(i-2) There was no support in the original application for the value of red phosphorus of 2.1 parts by weight because the only basis therefor in Example 4 of the patent specification did not lend itself to a generalisation to the quantitative and qualitative definitions of the further components of this claim.

(i-3) In particular, this generalisation was not in line with the criteria of T 201/83 (OJ EPO 1984, 481) in that this value was closely associated with the values of the other components of the composition as could be inferred from the statement on page 3, lines 24 to 28 of the patent specification: "The amounts of red phosphorus and, optionally, of the phosphorus containing organic compound ... are, generally, correlated with those of the polycarbonate (B), in that these amounts are inversely proportional to those of the polycarbonate. Generally, it is preferred that the quantities of the total phosphorus, given by the sum of the red phosphorus both in the free status and in the combined form, be not higher than 10 parts by weight with respect to 100 parts by weight of the mixture of the two (A) and (B) resins."

- (i-4) From that it followed, for example, that, differently from the situation of T 201/83, the choice of the concentration of one component (here  $D_1$ ) affected the concentration of the other component (here  $D_2$ ), since both had the same function of being a flame retardant.
- (i-5) Furthermore, contrary to the situation of T 201/83, the red phosphorus value of 2.1 parts by weight lay in the middle of the exemplified values and did not, therefore, suggest itself as limiting value of an amended range of amounts.
- (i-6) A further obstacle to a generalisation of the red phosphorus value of Example 4 was the importance for the properties of the resultant composition of the weight ratio acrylonitrile-butadiene-styrene copolymer (ABS) to polycarbonate (PC) of 30/70 of this example because a change of this ratio must have an impact on the amounts of the flame retardants  $D_1$  and  $D_2$  for the desired  $V_0$  flame retardancy.
- (i-7) Moreover, contrary to the broad definition of the polymeric components A, B, C and  $D_2$  according to Claim 1, Example 4 made use of a specific combination of polymer components A (a specific ABS), B (a specific polycarbonate), C (a specific graft copolymer) and  $D_2$  (a specific organic phosphorus compound) and it was therefore not justified to transfer the amount of 2.1 of red phosphorus according to this example to the much broader definitions of Claim 1.

(i-8) The amendment of the value of red phosphorus to 2.1 parts by weight, thus, contravened Article 123(2) EPC.

(i-9) Likewise, the feature of the range of "1 to 30 parts by weight" of the grafted polymer component C in Claim 1 of the main request did not meet the requirements of Article 123(2) EPC because all worked examples used 5 parts by weight of component C, and because the patent in suit only referred to ranges "from 0 to 30 parts by weight" (page 6, line 24 and Claim 7) and "from 1 to 10 parts by weight" (page 6, line 24 and Claim 17). However, this objection was not further elaborated by the Appellant at the oral proceedings.

**Claims 1, first and second auxiliary request**

(i-10) Though, as compared with Claim 1 of the main request, these claims comprised considerably restricted ranges of amounts of components A, B, C and D<sub>2</sub>, the objections against the admissibility of the upper limit of 2.1 parts by weight of red phosphorus raised with regard to the main request remained essentially the same.

**(ii) Admissibility of the third auxiliary request**

In the Appellant's view, this request should not be admitted into the appeal proceedings because it was filed at a very late stage and was not clearly allowable: the chemical composition of the polycarbonate component B,

which was identified in Claim 1 by reference only to the trademark SINVET<sup>(R)</sup>, was unclear and could not be ascertained from the available evidence.

(iii) **Objections under Article 54 EPC**

In that respect the Appellant referred to its submissions of 1 December 1997 and 17 February 1999 before the first instance and maintained its assertion that the claimed subject-matter was anticipated by the disclosure of document D1.

(iv) **Objections under Article 56 EPC**

(iv-1) Since D1 only differed from the claimed subject-matter by the lack of a grafted polymer component C, the only problem that objectively could be formulated vis-à-vis this document was that referred to on page 3, lines 18 to 21 of the patent specification, i.e. an improvement of the weld strength. The problem which was considered by the decision under appeal ("to obtain a flame retardant and impact resistant thermoplastic composition having a V0 rating which is free of halogen") could not be accepted because there was no evidence of any improvement over D1 with respect to flame retardancy or impact resistance which was due to the addition of the grafted polymer component C.

(iv-2) The solution of the afore-mentioned technical problem by the addition of a grafted polymer component C was, however, obvious in the light of D6 which contained exactly this teaching.

(iv-3) Furthermore, the presence of an inventive step should also be denied for the subject-matter of Claim 1 of the main request on the basis of the test report attached to the Appellant's submission dated 16 March 2000 which showed that the required V0 value could not be obtained with compositions containing as the only flame retardant 0.15 % by weight of red phosphorus.

IX. The Respondent's arguments as presented in its written submissions dated 30 January 2001 and 20 June 2002 (in response to the Rapporteur's communication dated 5 April 2002) and at the oral proceedings may be summarised as follows:

(i) **Objections under Article 123(2) EPC**

**Main request, first and second auxiliary requests**

(i-1) The condition of decision T 201/83, namely that the generalisation of an individual experimental value was admissible provided that a skilled person could have readily recognised that it was not closely associated to the other features of the example, was met for the value of 2.1 parts by weight of red phosphorus according to Example 4 because

(i-1.1) the reference on page 3, lines 24 to 28 of the patent specification to a total amount of phosphorus of lower than 10 parts by weight only related to a preferred feature of the invention and not to a compulsory requirement, and

- (i-1.2) because said decision did not, in fact, require that the components of the example from which the individual value was taken must have different functions.
  
- (i-2) Furthermore, it could be concluded from the examples in the patent in suit that the amounts of the red phosphorus component  $D_1$  and of the organic phosphorus component  $D_2$  could be varied independently from one another. This was particularly clear from the influence of the amounts of the triphenyl phosphate on the Vicat and MFI values according to Examples 1 and 3 which both used the same amounts of red phosphorus.
  
- (i-3) In spite of the variation of the amounts of red phosphorus, the same phenomenon was also apparent from Examples 7 to 10. These examples furthermore demonstrated an increase of the Izod values with decreasing amounts of red phosphorus.
  
- (i-4) Since the specific polymeric components A, B and C as well as the specific organic phosphorus compound (triphenyl phosphate) used according to Example 4 were only representative examples of the broader definitions in the respective Claims 1, the discrepancy between the chemical species of Example 4 and the broader wording of these claims did not constitute an obstacle to the incorporation into Claim 1 of the value of 2.1 parts by weight of the amount of red phosphorus.

(i-5) Similarly, the amendment in Claim 1 of the main request of the range of component C to "1 to 30 parts by weight" was fully supported by the original specification, e.g. Claim 17 and page 6, line 24.

(i-6) Consequently, the Claims 1 of all requests met the requirements of Article 123(2) EPC.

(ii) **Admissibility of the third auxiliary request**

This request should be considered admissible because it was clearly supported by the statements on page 7, lines 39 to 46 of the patent specification.

(iii) **Article 54 EPC**

The subject-matter of present Claim 1 was novel over D1 because the compositions of this document did not comprise a grafted polymer component C.

(iv) **Article 56 EPC**

(iv-1) The problem underlying the present subject-matter resided in the provision of compositions having improved flame resistance while maintaining good mechanical properties, and especially high impact strength, and avoiding the use of any halogen compound. This problem was solved by the use of specific amounts of red phosphorus, optionally together with a phosphorus compound, as well as by the presence of a component C which provided particular mechanical properties.

- (iv-2) The worked examples of D1 (Examples 9 to 12 and 14 to 16) showed that ABS/polycarbonate blends could only achieve a SE0 rating in the presence of at least 4 % by weight of red phosphorus or, if less red phosphorus was used, in the additional presence of sufficient amounts of a halogen-containing flame retardant (cf. Example 6: 2 % red phosphorus plus 5 % of decachlorodiphenylcarbonate).
- (iv-3) However, for a number of reasons (corrosion of metallic parts, development of toxic flue gas, substantial decrease of impact strength, elongation and aging resistance) the patent in suit (cf. page 2, lines 28 to 32) wanted to avoid the presence of halogen-containing flame retardants.
- (iv-4) Document D6 did not lend itself to a combination with D1; but even if these documents could be combined the resulting product would be different in that, in the case of the presence of less than 4 % by weight of red phosphorus, it must also contain a halogen-containing flame retardant.
- (iv-5) The Appellant's contention that an inventive step should be denied for the claimed subject-matter on the basis of its test report of 16 March 2000 which showed that the required V0 value could not be obtained with compositions only containing 0.15 % by weight of red phosphorus was, in the Respondent's view, not conclusive because it was sufficient under the EPC that the desired technical effect of a claimed invention was, substantially obtained over the whole claimed range.



- X. The Appellant requested that the decision under appeal be set aside and that the European patent No. 574 054 be revoked.

The Respondent requested that the appeal be dismissed and that the patent be maintained on the basis of Claims 1 to 14 (main request) or Claims 1 to 13 (first auxiliary request), respectively filed on 21 June 2002, or Claims 1 to 12 (second auxiliary request) or Claims 1 to 4 (third auxiliary request), respectively submitted at the oral proceedings.

### Reasons for the Decision

1. The appeal is admissible.
2. *Admissibility of the requests*
  - 2.1 Since the EPC itself does not specify a time limit for the filing of amended claims in opposition proceedings, admitting such claims in appeal proceedings is at the discretion of the boards, taking account of all circumstances of the case.
  - 2.2 The main request and the first auxiliary request had been filed with the Respondent's submission dated 20 June 2002 in response to the communication of the Rapporteur dated 5 April 2002 containing some advice as to the compliance with the requirements of Article 123(2) EPC of the version of Claim 1 underlying the decision under appeal.

According to normal practice of the boards of appeal, these new requests are admitted because they represent a *bona fide* attempt to overcome Article 123(2) EPC objections, had been filed more than one month prior to

the oral proceedings, and thus helped to streamline the appeal proceedings (cf. Case Law of the Boards of Appeal, 4th edition 2001, page 549, lines 3 to 5 of Section 14.2.3).

2.3 The second auxiliary request was filed at the oral proceedings after it became clear to the Respondent that the higher ranking requests were considered by the Board to contravene Article 123(2) EPC. Since, under the circumstances, the admission of this request was not contested by the Appellant, since it merely involved a clear restriction in Claim 1 of the first auxiliary request of the meaning of component D<sub>2</sub>, and since it must be considered as a serious attempt to avoid revocation of the patent, this request was admitted for consideration.

2.4 The third auxiliary request was filed at an even later stage of the oral proceedings. While Claim 1 of this request comprises further clear and meaningful restrictions of some features, it also comprises a definition of component B by reference to the registered trademark SINVET<sup>(R)</sup>. However, this trademark does not relate to a structurally well defined polycarbonate species but to a host of differently structured alternatives (cf. definition of formula (III) on page 4, line 51 to page 5, line 50 of the patent in suit) and is not suitable therefore to provide a precise definition of the structural constitution of this component which satisfies the clarity requirement of Article 84 EPC (cf. T 480/98 not published in the OJ EPO). In the circumstances, this request could not succeed. In view thereof and because of its very late submission the Board, in exercise of its discretion, decides not to admit the third auxiliary request into the appeal proceedings.

3. Article 123(2) EPC

3.1 This Article stipulates that a European patent application or a European patent may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed.

3.2 In the present case the admissibility of the generalisation of the value of 2.1 parts by weight of red phosphorus according to Example 4 of the patent in suit (page 8, Table I; identical to Table I on page 9 of the printed application) and of its incorporation as upper limit of the weight range of the red phosphorus component D1 into Claim 1 of all valid requests is at stake.

3.3 Extracting an isolated feature from an originally disclosed combination and using it for delimiting claimed subject-matter can only be allowable under the concept of Article 123(2) EPC if that feature is not inextricably linked with further features of that combination.

3.4 In the case of an amendment of the definition of a lead alloy comprising calcium and magnesium in certain weight ranges the board allowed in decision T 201/83 the introduction into Claim 1 of a (higher) lower limit of calcium which had only been disclosed in combination with specific amounts of magnesium and tin. The board argued (Reasons 9, second and third sentences): "In view of the loose connection between particular calcium and magnesium contents with regard to the effect, the expert would treat them as features of design that could be separately considered. The same applies to the tin content, ...".

Consequently, the board allowed this amendment and held (Reasons 12, last sentence): "The Board holds the view that an amendment of a concentration range in a claim for a mixture, such as an alloy, is allowable on the basis of a particular value described in a specific example, provided the skilled man could have readily recognised this value as not so closely associated with the other features of the example as to determine the effect of that embodiment of the invention as a whole in a unique manner and to a significant degree."

3.5 The present Board essentially concurs with the above conclusion of T 201/83. The issue referred to in point 3.2 supra therefore depends on whether or not the value of 2.1 parts by weight of red phosphorus is so closely associated with the other features of Example 4 as to determine the properties of this embodiment as a whole to a significant degree.

3.6 An analysis of the experimental evidence contained in the patent in suit (identical to the information in the original application) reveals the following:

3.6.1 All examples of the patent in suit (Examples 1 to 10; page 7, line 39 to page 8, Table I) use the same chemical species, i.e.

- as component A: ABS consisting of 67.5 % by weight of styrene, 10.5 % by weight of polybutadiene rubber and 22 % by weight of acrylonitrile;
- as component B: SINVET<sup>(R)</sup> (PC) polycarbonate;
- as component C: PARALOID<sup>(R)</sup> EXL 2600 (grafted polymer consisting of 60 % by weight of a core of polybutadiene rubber on which chains of styrene-methylmethacrylate copolymer (ratio 1:1) are grafted in an amount of 40%;

- as component D1: red phosphorus AMGARD<sup>(R)</sup> CRP;
- as component D2: triphenyl phosphate (REOMOL<sup>(R)</sup> TPP).

3.6.2 It is apparent from Table I of the patent specification that the amounts of the various components, the polymeric components as well as the flame retardants D<sub>1</sub> and D<sub>2</sub>, have a considerable impact on the UL 94 V retardancy, the Izod impact strength, the Vicat temperature and the MFI.

The following three groups of examples can be distinguished according to their ABS/PC weight ratio and the amount of total phosphorus (red phosphorus plus organic phosphorus) required to achieve a V0 rating according to UL 94 V:

Group 1:

Composition	Example 1	Example 2	Example 3
ABS	40	40	40
PC	60	60	60
Paraloid	5	5	5
red phosphorus	7	5.5	7
(Ph) <sub>3</sub> phosphate	-	12	10
tot.phosphorus	6	6	7
Izod [J/m]	100	150	110
Vicat [°C]	160	92	95.5
MFI [g/10']	5	18	14

Group 2:

Composition	Example 4	Example 5	Example 6
ABS	30	30	25
PC	70	70	75
Paraloid	5	5	5

red phosphorus	2.1	1.6	1.1
(Ph) <sub>3</sub> phosphate	7	11	15
tot.phosphorus	2.5	2.5	2.5
Izod [J/m]	350	340	340
Vicat [°C]	106.5	96.5	87.5
MFI [g/10']	16	24	33

Group 3:

Composition	Example 7	Example 8	Example 9	Example 10
ABS	15	15	15	15
PC	85	85	85	85
Paraloid	5	5	5	5
red phosphorus	1.2	0.6	0.3	0.1
(Ph) <sub>3</sub> phosphate	-	5	7	10
tot.phosphorus	1	1	1	1
Izod [J/m]	480	500	600	630
Vicat [°C]	139.5	120.5	113.5	104
MFI [g/10']	3	12	16	25

It follows from the above grouping of the examples that the value of 2.1 parts by weight of red phosphorus of Example 4 does not apply to the whole range of the weight ratio (component A)/(component B) set out in Claim 1 of the main request because obviously this ratio is determining for the amount of red phosphorus (and total phosphorus) required to obtain the desired flame retardancy: the 2.1 parts by weight of red phosphorus used according to Example 4 would not be sufficient, according to these experiments, for the compositions of the afore-mentioned Group 1.

3.6.3 It is furthermore self-evident to the skilled person that the flame retardancy and the further properties of the compositions of Examples 1 to 10 are specific to the chemical species used (cf. point 3.6.1 supra) and

would be different for many, probably the majority, of the other species comprised by the definitions of the components A, B, C and D<sub>2</sub> of the main and the first auxiliary request (cf. Sections IV and VII supra).

Indeed, these definitions are relatively broad in that

- (a) component A may comprise any vinyl aromatic monomer and any rubber and is not restricted to styrene and butadiene as used in the ABS of the examples,
- (b) component B may comprise a wide variety of aromatic polycarbonates with different substitution and different linking groups of the aromatic nuclei (cf. page 4, line 51 to page 5, line 50 of the patent specification) and is not restricted to the use of the polymer (SINVET<sup>(R)</sup>) used in the worked examples,
- (c) component C may comprise any elastomeric core having the specified glass transition temperature of < 10°C and any vinyl aromatic monomer and is not restricted to polybutadiene rubber and styrene; nor is it restricted to the presence of grafted chains of a styrene-methylmethacrylate copolymer, and
- (d) component D<sub>2</sub> may comprise many different organic phosphorus compounds ranging e.g. from trimethylphosphine oxide (n = 0; R<sub>1</sub> = R<sub>2</sub> = R<sub>3</sub> = methyl;) to tris(C<sub>14</sub>-alkylphenyl)phosphate (n = 1; R<sub>1</sub> = R<sub>2</sub> = R<sub>3</sub> = alkyl-substituted phenyl having 20 carbon atoms).

3.6.4 It is conspicuous that, unlike the situation underlying T 201/83 whose worked example made use of exactly the claimed matrix material (lead) and of exactly the claimed additives (magnesium, calcium), in the present case the matrix components (A, B, C) as well as the

triphenylphosphate component (D<sub>2</sub>) of Example 4 represent narrow selections from the claimed matrix materials and from the claimed organic phosphorus component.

3.7 The above analysis leads to the following conclusions with regard to the respective requests:

3.7.1 Main request

Since the value of 2.1 parts by weight of red phosphorus of Example 4 is closely associated with the weight ratio ABS/PC and with the use of the specific components A, B, C and D<sub>2</sub>, it cannot be separated from the weight ratio of 30/70, nor from the use of these specific compounds. Its introduction into Claim 1 as upper limit of the red phosphorus range therefore extends the subject-matter of this claim beyond the content of the application as filed.

Since a request can only be considered as a whole, the non-allowability of Claim 1 causes the entire main request to be non-allowable.

3.7.2 First auxiliary request

While the restriction of the weight proportions of components A, B, C and D<sub>2</sub> according to Claim 1 of this request eliminates the contravention of Article 123(2) EPC caused by the extension, as according to the main request, of the low red phosphorus amount of Example 4 to the Group 1 Examples 1 to 3 (which in fact require much higher red phosphorus amounts), the further contravention of this Article remains, namely that the transfer of this value to the much broader definitions of Claim 1 is inconsistent with the fact that the nature of the specifically used materials cannot be dissociated from the relevant properties (flame retardancy, Vicat temperature, Izod, MFI).



Consequently, Claim 1 of this request also infringes upon Article 123(2) EPC resulting in the non-allowability of the entire first auxiliary request.

### 3.7.3 Second auxiliary request

In spite of the restriction according to Claim 1 of this request of the meaning of component D<sub>2</sub> to the exemplified organic phosphorus component triphenylphosphate, the problem associated with the broadening of the specific definitions of components A, B and C used according to Example 4 to the much wider definitions of Claim 1 remains the same (cf. previous paragraph). The subject-matter of this claim therefore also extends beyond the content of the application as filed.

Hence, this request does not meet the requirements of Article 123(2) EPC, either.

4. In the absence of any valid request which conforms with the requirements of Article 123(2) EPC, the patent cannot be maintained.
5. There is therefore no need to deal with the further arguments brought forward in this appeal.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent in suit is revoked.

The Registrar:



E. Görgmaier

The Chairman:



R. Young