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**Datasheet for the decision  
of 21 January 2011**

**Case Number:** W 0001/10 - 3.3.07

**Application Number:** PCT/US2007/077508

**Publication Number:** WO 2008/030792

**IPC:** D06M 13/282

**Language of the proceedings:** EN

**Title of invention:**

Flame retarded textile products and a method of making the same

**Applicant:**

ALBEMARLE CORORATION

**Headword:**

-

**Relevant legal provisions:**

Decision of the Administrative Council of 28 June 2001 on the transitional provisions under Article 7 of the Act revising the EPC of 29 November 2000

PCT Art. 17.3(a)

PCT R. 13.1, 13.2, 40.1, 40.2(c), 40.2(e)

**Relevant legal provisions (EPC 1973):**

EPC Art. 154(3)

**Keyword:**

"Lack of unity a posteriori (yes)"

"Protest dismissed (yes)"

**Decisions cited:**

W 4/96

**Catchword:**

-



Case Number: W 0001/10 - 3.3.07

International Application No. PCT/US2007/077508

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.07  
of 21 January 2011

**Applicant:** ALBEMARLE CORPORATION  
Florida Street  
Baton Rouge  
LA 70801-1765 (US)

**Representative:** Kliebert, Jeremy J. et al  
Albermarle Corporation  
451 Florida Street  
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**Decision under appeal:** Protest according to Rule 40.2(c) of the Patent Cooperation Treaty made by the applicants against the invitation of the European Patent Office (International Searching Authority) to restrict the claims or pay additional fees dated 18 March 2008.

**Composition of the Board:**

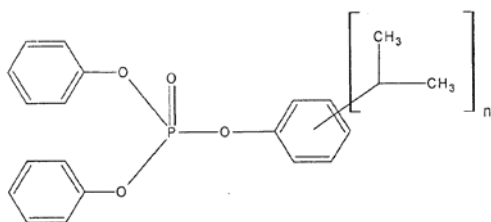
**Chairman:** B. ter Laan  
**Members:** G. Santavicca  
S. Hoffmann

## Summary of Facts and Submissions

I. International application PCT/US2007/077508, filed on 4 September 2007 and published under international publication number WO 2008/030792, contains 25 claims. Claims 1, 12, 24 and 25 read as follows:

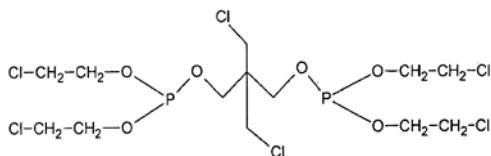
"1. A textile product comprising a flame retarding amount of:

i) Flame Retardant I, which comprises a major portion of an alkylated triaryl phosphate ester having the structure:

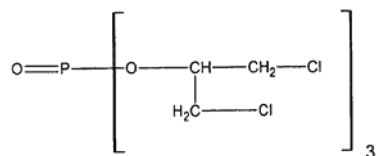


wherein n is in the range of from about 1 to about 3;

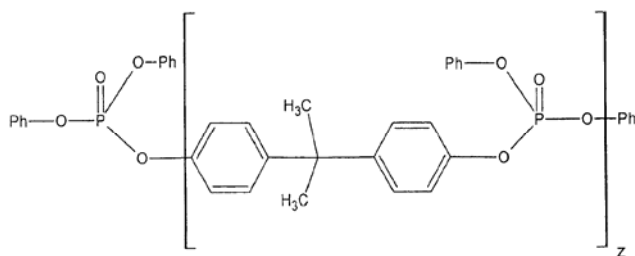
ii) Flame Retardant II, which comprises a major portion of:



iii) Flame Retardant III, comprising a major portion of:



iv) Flame Retardant IV, having the structure:



wherein z is in the range of from about 1 to about 4 and Ph is select [*sic*] a phenol.

and,

v) mixtures of i)-iv)."

"12. A textile product having a coating layer deposited thereon, said coating layer containing in the range of from about 5 to about 60 wt.% of a flame retardant selected from i) Flame Retardant I, ii) Flame Retardant II, iii) Flame Retardant III, iv) Flame Retardant IV, and v) mixtures of i)-iv)."

"24. A method of imparting flame retardancy to a textile comprising affixing to said textile a coating comprising a flame retarding amount of a flame retardant selected from i) Flame Retardant I, ii) Flame Retardant II, iii) Flame Retardant III, iv) Flame Retardant IV, and v) mixtures of i)-iv), wherein said textile is selected from fabrics, cloths, carpets, and the like, made from synthetic and/or natural fibers."

"25. A textile product having reduced flame spread characteristics comprising a textile material and a coating applied to a surface of said textile material and forming a layer thereon, said coating comprising in the range of from about 15 to about 40 wt.% of a flame retardant selected from i) Flame Retardant I, ii) Flame Retardant II, iii) Flame Retardant III, iv) Flame Retardant IV, and v) mixtures of i)-iv), wherein said

textile product is selected from fabrics, cloths, carpets, and the like, made from a) synthetic fibers, b) natural fibers, or mixtures of a) and b), and said coating is a back coating, said back coating being substantially transparent and said textile product has odor and physical attributes similar to that of an identical textile product not containing a flame retarding amount of i) Flame Retardant I, ii) Flame Retardant II, iii) Flame Retardant III, iv) Flame Retardant IV, and v) mixtures of i)-iv), wherein said textile product optionally includes fibers that are flame retarded."

II. With a communication posted on 18 March 2008, the European Patent Office (EPO), in its capacity of International Searching Authority (ISA), issued an invitation under Article 17(3)(a) and Rule 40.1 PCT to pay two additional search fees since the requirement of unity of invention as laid down in PCT Rules 13.1 and 13.2 was not met.

III. The ISA raised the following objections:

(a) The claims of the application concerned multiple groups of inventions, identified as follows:

1. A first group of inventions [which was in fact made up of three subgroups] concerning, respectively:

(1.1) A textile product comprising as a flame retardant a major portion of an alkylated triaryl phosphate ester (flame retardant I), as defined in Claims 1i, 2-4, 10i-14i, 15, 16i, 17a and 22i-25i.

(1.2) A textile product comprising as a flame retardant specific percentages of alkylated triaryl phosphate esters ingredients (flame retardant I), as defined in Claims 5 and 17b-d.

(1.3) A textile product comprising as a flame retardant a polyphosphate (flame retardant IV), as defined in Claims 1iv, 9, 10iv-14iv, 21 and 22iv-25iv.

(2) A second group of inventions concerning a textile product comprising as a flame retardant a major portion of chlorinated bis phosphite (flame retardant II), as defined in Claims 1ii, 6, 10ii-14ii, 18 and 22ii-25ii.

(3) A third group of inventions concerning a textile product comprising as a flame retardant a major portion of chlorinated phosphate (flame retardant III), as defined in Claims 1iii, 7, 8, 10iii-14iii, 19-20 and 22iii-25iii.

(b) The groups of claims were not linked by common or corresponding special technical features and defined 3 different inventions not linked by a single general inventive concept, for the reasons as follows:

(i) A textile product comprising as a flame retardant a major portion of an alkylated triaryl phosphate ester (flame retardant I, belonging to Group (1.1)) or a polyphosphate (flame retardant IV, belonging to

Group (1.3)) was known from D1 (WPI abstract of JP 2003 147677, AN 2004-307522).

(ii) The specific percentages of alkylated triaryl phosphate esters ingredients (flame retardant I, belonging to Group (1.2)) not disclosed by D1, the chlorinated bis phosphite (flame retardant II, belonging to Group (2)) and the chlorinated phosphate (flame retardant III, belonging to Group (3)), did not share common features, nor any proven common technical effect over D1, so that the problem solved by each of the flame retarded textile products containing the various flame retardants was to provide alternative flame retarded textile products.

(c) Therefore, the search report only related to the subject-matter belonging to Group (1) and defined in Claims 1-4, 9-17 and 21-25.

IV. On 7 April 2008, in response to the invitation of the ISA, the applicants paid the two additional search fees for the second and third groups of inventions [i.e. Groups (2) and (3) as defined above] under protest, as well as the fee for the examination of the protest (Rule 40.2(c) PCT), arguing in essence as follows:

(a) The concept linking all the inventions of Groups (1) to (3) was a "flame retarded textile product", containing any of the flame retardants listed in Claim 1 as well as their mixtures.

(b) The examiner had conceded that each of them solved the same problem but objected to the lack of a

common technical effect over the products of D1, which however was not a requirement of Rule 13.2 PCT.

- (c) D1 did not disclose an isopropyl phenyl diphenyl phosphate but a tert-butyl phenyl diphenyl phosphate.
- (d) Since the flame retardants for the claimed textile products were not disclosed or suggested by D1, a special technical feature pursuant to Rule 13.2 PCT was provided by all the claimed inventions.
- (e) Therefore, the matter should be reconsidered in favor of the applicants and the fees reimbursed.

V. Pursuant to PCT Rule 40.2(e), on 28 May 2009, the ISA sent an invitation to pay the protest fee (Form PCT/ISA/228(April 2005)) together with an annex (Form PCT/ISA/228(Annex)(January 1994)) setting out the result of the review by the Review Panel constituted in the framework of the ISA of the justification of the applicants' protest against the invitation to pay additional search fees. According to the review panel, the invitation to pay the two additional search fees was justified, for the following reasons:

- (a) D1 (the Review panel made reference to the English translation of D1 that is available at:  
[http://dossier1.ipdl.inpit.go.jp/AIPN/aipn\\_call\\_transl.ipdl?N0000=7413%N0120=01&N2001=2&N3001=2003-147677](http://dossier1.ipdl.inpit.go.jp/AIPN/aipn_call_transl.ipdl?N0000=7413%N0120=01&N2001=2&N3001=2003-147677), hereinafter identified as D1a) did not disclose flame retardant I but flame retardant IV for coating a textile. Hence, a flame retarded textile with flame retardant IV was known;
- (b) even if it were considered that all of the flame retardants defined in Claim 1 solved the same



- problem of conferring flame retardancy to a textile product, that problem was known from D1;
- (c) in such a situation, the requirement prescribed by Rule 13.2 PCT of a technical relationship and the same or corresponding special technical features was met if the alternatives were of similar nature;
  - (d) similar nature meant that each solution had a common property or activity and a common structure present, which was a significant structural element;
  - (e) the common concept linking the flame retardants defined in Claim 1 was not a "flame retarded textile product", as alleged by the applicants, but rather a "flame retarded textile product comprising a compound possessing a  $-P(OR)_3-$  unit, where R was a (un)substituted hydrocarbon";
  - (f) that partial identity as the common element to all of the alternatives defined in Claim 1 could not be considered to be a significant structural element;
  - (g) also, that common element was anticipated by D1, so that the element was not special, hence there was lack of unity;
  - (h) consequently, the subject-matter of Claim 1 had to be considered as encompassing three different inventions (textile product with flame retardants I and/or IV; textile product with flame retardant II; textile product with flame retardant III);
  - (i) whilst textile products with flame retardants IV were anticipated by D1, those coated with flame retardants II and III provided a different technical feature over D1 with regard to the chemical nature of the flame retardants.

(j) Therefore, neither the protest nor the request for refund of the additional search fees paid by the applicants were justified, so that the request of the ISA for that payment was upheld. Furthermore, the applicants were also invited to pay the protest fee (Rule 40.2(e) PCT).

VI. The applicants (appellants), who had already paid the protest fee (Point IV, *supra*), did not offer any further arguments.

VII. The case was forwarded to the present Board of Appeal.

VIII. In their latest submission on 7 April 2008, the appellants had requested a favorable decision on their protest and the reimbursement of any additional fees paid under protest.

## **Reasons for the Decision**

### *Admissibility*

1. According to the Decision of the Administrative Council of 28 June 2001 on the transitional provisions under Article 7 of the Act revising the European patent Convention of 29 November 2000 (see Article 1, Point 6, second sentence), Article 154(3) of the version of the Convention in force before 13 December 2007 (i.e. EPC 1973) continues to apply to international applications pending at the time of entry into force of the revised Convention (13 December 2007).

The present international application, filed on 4 September 2007, was pending at that date, so that Article 154(3) EPC continues to apply to it and stipulates the competence of the Board of Appeal at the time when the protest was filed.

Therefore, the Board of Appeal may decide on the protest.

2. The time limit to pay the 2 additional search fees fixed by the ISA with letter dated 18 March 2008 (Article 17(3)(a), Rule 40.1 PCT) as well as to file a protest (Rule 40.2(c) PCT) and to pay the relevant fee (Rule 40.2(e) PCT) expired on 18 April 2008 (i.e. one month from 18 March 2008). The protest was filed on 7 April 2008 and the 2 additional search fees and the protest fee were paid on the same day, hence in due time, so that the protest was made.
3. Although prior review according to Rule 105(3) EPC 1973 was no longer stipulated by Rule 40.2(e) PCT (valid since 1 April 2005) it nevertheless is not precluded by the PCT.

No reimbursement was ordered by the invitation to pay the protest fee sent on 28 May 2009.

4. Although the invitation to pay the protest fee was not issued by the ISA with letter dated 7 April 2008, as prescribed by Rule 40.1(iii) PCT (in force since 1 April 2005), but with letter dated 28 May 2009, as it was prescribed by the then valid Rule 105(3) EPC 1973, the protest fee had already been paid on 7 April 2008 (Point 2, *supra*), hence in due time.

5. Therefore, the protest is admissible.

*Inventions claimed in the International Application*

6. Having regard to the specific flame retardants mentioned in Claim 1, the following groups of non unitary inventions have been identified by the ISA (Point III, *supra*):

- Group I: Claims 1i, 2-5, 10i-14i, 15-17, 22i-25i, directed to a textile product comprising a flame retarding amount of Flame Retardant I, which comprises a major portion of mono (ortho-, meta- or para-), di- or tri-isopropyl phenyl diphenyl phosphate; and  
Claims 1iv, 9, 19iv-14iv, 21, 22iv-25iv textile product comprising a flame retarding amount of Flame Retardant IV, having the structure of a Bisphenol A bis(diphenyl phosphate) (Z=1) or of an oligomeric (Z=2-4) Bisphenol A bis diphenyl phosphate.
- Group II: Claims 1ii, 6, 10ii-14ii, 18, 22ii-25ii, directed to a textile product comprising a flame retarding amount of Flame Retardant II, which comprises a major portion of 2,2-bis(chloromethyl)-1,3-propylene-bis[bis(2-chloroethyl)phosphite]. And
- Group III: Claims 1iii, 7, 8, 10iii-14iii, 19-20, 22iii-25iii concerns a textile product comprising a flame retarding amount of Flame Retardant III, which comprises a major portion of tris(1,3-dichloroisopropyl) phosphate).

7. The subject-matter belonging to Group I has been searched (partial search report sent on 18 March 2008 together with the invitation to pay additional search fees) (see also Point II, *supra*).
8. It follows from the foregoing that the only issues to be decided are whether or not the subject-matter of Groups II and III share a single general inventive concept (Rule 13.1 PCT) with those of Group I, and, if not, whether or not the subject-matter of Groups II and III share a single inventive concept between them.
9. The present international application relates to a number of (chemical) alternatives as defined in Claim 1, which have to be linked so as to form a single general inventive concept (Rule 13.1 PCT).
10. To satisfy the requirement of unity of invention in respect of the different alternatives as claimed, there must be a technical relationship among technical features that define a contribution which each of the inventions, considered as a whole, makes over the prior art (Rule 13.2 PCT).
11. The principles for the interpretation of the method of Rule 13.2 PCT that are applicable to the present case can be found in the Administrative Instructions of the PCT, PCT/AI/11/Annex B, in particular parts (d) and (f)), according to which the chemical alternatives have to be of a similar nature. To be of a similar nature, the chemical alternatives should have a common property or activity and a common structure, i.e. a significant structural element shared by all of them. In cases

where the common structure cannot be the unifying criterion, all alternatives have to belong to a class of chemical compounds recognized in the art to which the invention pertains.

12. The examples of the present international application show that textile products coated with representatives of the chemical alternatives defined in Claim 1 pass a specific flame test (paragraph [0065]), hence that the chemical alternatives are suitable flame retardants for textile applications, so that the alternatives of Claim 1 share a common property or activity.
  
13. The definitions of flame retardants I and IV (Group I) encompass a number of specific non-halogenated alkyl phenyl (aromatic) phosphate esters. As common structural element, these esters share a p-isopropyl phenyl diphenyl phosphate unit, which can also be one of the specific compounds of flame retardant I (Group I).

The definition of flame retardant II concerns a specific halogenated aliphatic bis phosphite, namely a 2,2-bis(chloromethyl)-1,3-propylenebis[bis(2-chloroethyl) phosphite], i.e. a chloroalkyl phosphite.

The definition of flame retardant III concerns a specific halogenated aliphatic phosphate, namely a tris(1,3-dichloro isopropyl) phosphate, i.e. a chloroalkyl phosphate.

It is apparent from the foregoing considerations that whilst the phosphate esters of flame retardants I and IV (Group I) are non-halogenated and aromatic, the

phosphite ester of flame retardant II (Group II) and the phosphate esters of flame retardant III (Group III) are halogenated and aliphatic.

Nevertheless, all of the alternatives of Claim 1 relate to phosphorus (oxoacid ester) based flame retardants, sharing as common structural element the unit  $-P(OR)_3-$ , where R is a(n) (un)substituted hydrocarbon, which unit occupies a large portion of their structure and contains the element phosphorus that is essential to the flame retardant property.

The phosphorus-based flame retardants comprised in the alternative textile products of Claim 1 indisputably constitute a class of flame retardants recognized in the art, acknowledged as such in Paragraph [0004] (first line) of the application as filed.

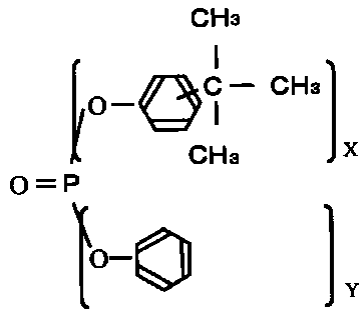
14. Therefore, a technical relationship in terms of common activity, common structural element and similar nature among the technical features of Claim 1 can be established before considering the cited prior art ("*a priori*").
15. However, the ISA (Point III(b)(i), *supra*) held that at least one of the chemical alternatives of Group I of Claim 1 was not novel over the prior art disclosed by D1(a).
16. Consequently, unity of invention has to be established by also taking into account the prior art cited by the examiner ("*a posteriori*") (Case Law of the Boards of Appeal of the EPO, 6th edition 2010, II.C.5.3, in particular W 4/96, OJ 1997, 552). In particular, it has

to be established whether or not the acknowledged technical relationship among the technical features of Claim 1 defines a novel and inventive contribution which each of the chemical alternatives, considered as a whole, makes over the cited prior art, in this case D1a (Rule 13.2 PCT).

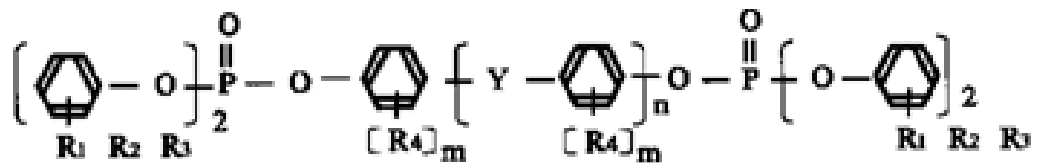
*The disclosure of D1a*

17. D1a (Claim 1) discloses a fire-resistant, resin-finished textile, at least one side of the textile being covered with a thermoplastic resin containing at least one kind of phosphorus system compounds of the following formula:

[Chemical Formula 1]



[Chemical Formula 2]



wherein,

in Formula 1, X+Y=3 and X=0-3, and,

in Formula 2, R<sub>1</sub>-R<sub>4</sub>=H, R<sub>1</sub>-R<sub>3</sub> couple separately with the benzene nucleus, Y can be -CH<sub>2</sub>, -C(CH<sub>3</sub>)<sub>2</sub>-, -S-, -SO<sub>2</sub>-, -O- or -CO-N=N-, n can be 0 or more, and m can be 0-4.

17.1 In particular, D1a discloses that in the resin finished textile 20 weight parts or more of the phosphorus

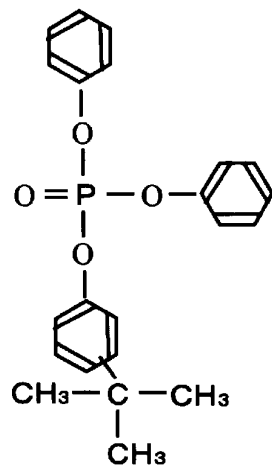


system compound can be blended with 100 weight parts of the thermoplastic resin (Claim 2).

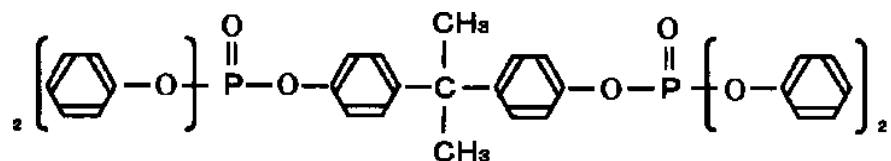
17.2 The resin finished textile according to D1a is suitable for use in a waterproof cloth, a tent, a tent warehouse, a track hood, a track sheet, a container, a care-of-health sheet, a partition film and a curtain (Claim 3).

17.3 D1a also discloses a number of phosphorus-based fire retardants being specific oxoacid ester compounds, *inter alia*:

- (a) *o*-, *m*- or *p*-*t*-butyl phenyl diphenyl phosphate (Fire retardant a, Chemical formula 10, Paragraph [0064]) (TBPP)



- (b) Bisphenol A bis(diphenyl phosphate) (Fire retardant c, Chemical formula 12, Paragraph [0068])



- (c) triphenyl phosphate (TPP) (Fire retardant b, 2Chemical formula 11, Paragraph [0066]), tricresyl

phosphate (TCP) (Fire retardant d, Chemical formula 13, Paragraph [0070]), and trixylool phosphate (TXP) (Fire retardant e, Chemical formula 14, Paragraph [0072]).

17.4 Hence, D1a discloses a textile product coated with an amount of phosphorous-based fire retardants selected among alkylated triaryl phosphates such as TPP, TCP, TXP, TBPP and bisphenol A bis(diphenyl phosphate).

17.5 However, D1a does not directly and unambiguously disclose the iso-propyl phenyl diphenyl phosphate constituting the major portion of Flame Retardant I (Group I) as defined in Claim 1 of the present application.

*Novelty of the technical relationship among the features of Claim 1*

18. D1a (Fire retardant c, Chemical formula 12, Paragraph [0068]) (Point 17.3(b), *supra*) discloses a textile product comprising an amount of Bisphenol A bis(diphenyl phosphate) identical to Flame retardant IV defined in Claim 1 of the present International application, wherein Z=1.

18.1 Hence, one of the chemical alternatives of Claim 1 (Flame Retardant IV with Z=1) was known in the art of flame retarded textiles described by D1a.

18.2 The known flame retardant contains the structural unit -P(OR)<sub>3</sub>-, where R is a(n) (alkylated) phenyl group, i.e. a(n) (un)substituted hydrocarbon. Also the further alkylated triaryl phosphates such as *o*-, *m*- or *p*-t-

butyl phenyl diphenyl phosphate, TCP and TXP, all disclosed in D1a as flame retardants for textile applications, contain the structural unit  $-P(OR)_3-$ , where R is a(n) (alkylated) phenyl group.

- 18.3 Consequently, the common property, activity and structural unit  $-P(OR)_3-$  constituting the technical relationship among the features of Claim 1 does not define a novel contribution which each of the inventions of Groups I to III makes over the prior art, in this case D1a, so that there are at least two inventions defined in Claim 1.

*Groups II and III*

19. It remains to be decided whether or not the inventions of Groups II and III as defined in Claim 1 fulfil the requirements of unity of invention.
20. Flame retardants II and III of Claim 1 also share a common structural element still represented by the unit  $-P(OR)_3-$ , wherein however R is a chlorinated aliphatic hydrocarbon of at least two carbon atoms, i.e. both are halogenated aliphatic phosphorus-based flame retardants.

The ISA has acknowledged that the respective flame retardants of Groups II and III of Claim 1 are not disclosed by D1(a) and thus provide a novel technical feature over D1(a).

Hence, the question to be answered is whether or not the common general concept linking the inventions of Groups II and III is inventive (Point 8, *supra*).

*Closest prior art*

21. The present application concerns flame retarded textile products.
- 21.1 D1a (Paragraph [0009]) concerns flame retarded textile products having a coating of at least one kind of phosphorous-based compound of the given formulae, so that it belongs to the same technical field of the present international application, and also addresses an objective (imparting flame resistance to textiles) similar to that of the present application. Therefore, D1a is a proper starting point.

*Problem and solution*

22. According to the present application (Paragraphs [0002] to [0006]), although textile products coated with or made of flame retardant materials were known, there still was an increasing demand for flame retarded textile products.
- 22.1 The present application contains a number of examples showing the flame retardant effectiveness [measured in accordance with British Standard 5852, part 1 (small flame 20 second ignition) before and after water soaking] of fabrics back-coated with representatives of Flame Retardants I-IV. According to the results of the examples (page 20, last paragraph), most of the tested flame retarded textiles passed the test, and met or exceeded the performance of textiles back-coated with HBCD (hexabromocyclodecane), so that those flame retardants were effective substitutes for HBCD.

- 22.2 However, in the examples Flame Retardants II and III are always used in mixtures with other flame retardants, respectively tris-(2-chloroethyl) phosphate (TCEP), tris-(2-butoxyethyl) phosphate (TBEP), an unspecified aryl phosphate and unspecified components A and B. Furthermore, the behaviour of the specific mixtures tested in the flame test depends on the used percentage of back-coating (also called add on (%)) and of phosphorus and/or halogen content, none of which is specified in present Claim 1. As regards Flame Retardants I and IV, it has not been indicated what specific compound or mixture has been included in the coating. In any case, their behaviour depends on the used percentage (add on (%)). The worst performance is that of Flame Retardant IV.
- 22.3 It follows from the foregoing that the results of the examples of the present international application do not demonstrate that Flame Retardants II and III behave any better than Flame Retardants I and IV, let alone any better than the known HBCD, if the same percentage (add on (%)) is used.
- 22.4 Apart from Flame Retardant IV, also disclosed by D1a, the present application does not contain any comparative examples over a further flame retardant disclosed by D1a, the tert-butyl phenyl diphenyl phosphate, which is the closest embodiment to Flame Retardant I according to the present application.
- 22.5 Therefore, the problem solved over D1a has to be formulated as to provide further flame retarded textile products.

*Obviousness*

23. It remains to be decided whether the solution to that problem, as defined in the claims for the inventions belonging to Groups II and III, was obvious.
- 23.1 According to D1a, to provide a resin-finished fabric having flame-retarding properties hardly causing environmental pollution, the coating, hence the flame retardant, should be free of halogens such as chlorine and bromine. Thus, D1a suggests the use of non halogenated aromatic phosphate esters if less polluting textile products are the objective.
- 23.2 Having regard to D1a, the chloroalkyl phosphite and phosphate esters now being claimed represent more polluting phosphorus-based flame retardants for fabric coatings. The class of halogenated flame retardants as such is well recognized in the art of flame resistance, as acknowledged in the present application (Paragraph [0004], "brominated flame retardants"). According to the prior art mentioned in the present international application (e.g. US-A-3 997 699, column 1, lines 50-51), also the use of halogenated aliphatic phosphate esters such as tris-(2,3-dibromopropyl)-phosphate for topically treating polyester fibres (a textile product) was known. Accordingly, it has never been argued that the claimed Flame Retardants II and III as such were not known.
- 23.3 In order to solve the problem of merely providing further flame retarded textile products, it is obvious for the skilled person to try to use any known halogenated aliphatic phosphorus-based flame retardants.

23.4 Therefore, the more specific common structural unit linking the inventions of Groups II and III is not inventive having regard to D1a.

*Conclusion*

24. It follows from the foregoing that the Board concurs with the finding of the ISA that the common features defined in Claim 1 were either not novel or obvious over D1(a), and that therefore they cannot form a single general inventive concept linking together the inventions of Groups I to III, nor those of Groups II and III.

25. Consequently, the invitation made under Rule 40.1 PCT to pay additional search fees was justified.

**Order**

**For these reasons it is decided that:**

The protest is dismissed.

The Registrar:

The Chairman:

S. Fabiani

B. ter Laan