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(54) Title: UNSUBSTITUTED AND POLYMERIC LEUCO COLORANTS FOR COLORING CONSUMER PRODUCTS

(57) Abstract: This invention relates to unsubstituted and polymeric leuco colorants for use as consumer product additives to indicate a product function by color change, to make attractive or distinctive visual effects, or to provide latent or delayed color generation. The colorants may be present in a stable, colorless state and may be transformed to an intense colored state upon exposure to certain physical or chemical changes. Alternatively, the colorants may be transformed from one color to another color upon exposure to certain physical or chemical changes. The colored form of the unsubstituted or polymeric leuco colorant may be transient, since the colorant can revert back to its colorless form or its original color after the physical or chemical activation has been removed or changed. Polymeric leuco colorants are typically comprised of at least two components: at least one leuco chromophore component and at least one polymeric component.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER INV. C09B69/00 C11D3/42		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) C09B		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, CHEM ABS Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 167 510 A (BRENDLE RALPH N) 11 September 1979 (1979-09-11) capped alkoxy; column 9; compounds 4,5	1,7,9
X	DE 14 19 801 A1 (DEERING MILLIKEN RES CORP) 21 November 1968 (1968-11-21) example 20	1,3
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Y	the whole document	10-12
	-/--	
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents :		
A document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed		*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family
Date of the actual completion of the international search 13 March 2009		Date of mailing of the international search report 25/03/2009
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer Friebel, Friedrich

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 08 259825 A (MITSUBISHI PAPER MILLS LTD) 8 October 1996 (1996-10-08) compounds 4,10	1,9,10, 12
Y	abstract	2,10-12
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INTERNATIONAL SEARCH REPORT

International application No.
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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4,7-12

alkoxylated triphenylmethane dyes of Structure (I) and (II)
- colored & leuco-form

2. claims: 5,6

alkoxylated fluorane colorants of Structure (I) and (II) -
zwitterionic & lactone form

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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International application No

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