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(54) Title: COLORANT COMPOUNDS CONTAINING COPOLYMERIZABLE VINYL GROUPS

(57) Abstract: Disclosed are novel colorant compounds which contain one or more ethylenically-unsaturated (vinyl), photopolymerizable radicals which may be copolymerized (or cured) with ethylenically-unsaturated monomers to produce colored compositions such as colored acrylic coatings and polymers, e.g., coatings and polymers produced from acrylate and methacrylate esters, colored polystyrenes, and similar colored polymeric materials derived from other ethylenically-unsaturated monomers. The present invention also pertains to processes for the preparation of certain of the photopolymerizable colorant compounds.

INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C09B69/10 C08F212/14 C08F290/14 C09D125/04 C09D133/04

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)

IPC 7 C09B C08L C08F C09D

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, PAJ, 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	GB 1 006 884 A (NAT STARCH CHEM CORP) 6 October 1965 (1965-10-06) page 4, line 47-50; examples I-III, VII-VIII ---	1, 2, 4, 5
X	DE 195 05 940 A (BAYER AG) 22 August 1996 (1996-08-22) page 6, line 32 - line 67 page 7, line 51 - line 64 ---	1, 2, 4
X	WO 98 33865 A (CIBA GEIGY AG) 6 August 1998 (1998-08-06) page 53, paragraph 4 -page 54, paragraph 2; claim 10; examples A3,B,C --- -/--	1

Further documents are listed in the continuation of box C.

Patent family members are listed in 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
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- *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

14 June 2002

Date of mailing of the international search report

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Name and mailing address of the ISA

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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	WO 98 33866 A (CIBA GEIGY AG) 6 August 1998 (1998-08-06) page 59, formula (I) page 16; examples B1,C1 ---	1
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X	JP 2000 144004 A (FUJI PHOTO FILM CO LTD) 26 May 2000 (2000-05-26) compounds LD-(42) - LD-(44), LD-(47), LD-(53) - LD-(56), LD-(58) - LD-(60) paragraphs '0106!-'0109! -& US 6 143 480 A 7 November 2000 (2000-11-07) column 52, synthesis example 4 ---	1
P,X	---	
A	US 3 689 501 A (WEAVER MAX A ET AL) 5 September 1972 (1972-09-05) claims; examples ---	1-4,7-10
A	US 5 962 557 A (KRUTAK SR JAMES JOHN ET AL) 5 October 1999 (1999-10-05) Table 1, compound 5; Table 2, compounds 16,17, 43-46 claims -----	1-4,7-10

INTERNATIONAL SEARCH REPORT

International application No.
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 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 fee, this Authority did not invite payment of any additional fee.

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.
- 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 (all partially), 5, 6, 8 (partially), 11-20

Compounds of Formula I and processes for the preparation of certain of these compounds

2. Claims: 1-4 (all partially), 7, 8 (partially), 9, 10

Compounds of Formula II and processes for the preparation of certain of these compounds.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/24634

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