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(88) Date of publication of the international search report:

23 July 2020 (23.07.2020)

(54) Title: COATING COMPOSITIONS

(57) Abstract: A coating product comprising an aqueous chromic composition comprising a colour-change component, such as a liquid crystal and a polymer binder dispersed in an aqueous solution. The coating product also contains a colourant which may be dispersed or dissolved in the aqueous composition is provided as a separate aqueous solution comprising the colourant to provide an underlying layer.



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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K8/63 A61K8/87 A61Q3/02 C09C1/48
ADD.

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)

A61K A61Q C09C

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 practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 357 844 A1 (AKZO NV [NL]) 14 March 1990 (1990-03-14) page 1 example 1 page 3, lines 33-37 page 3, lines 46-50 claims 10-11	1-3,5-9, 11,12, 14-16
X	US 2002/192247 A1 (THEISEN LYLE [US]) 19 December 2002 (2002-12-19) paragraph [0001] paragraph [0002] example 1 example 3 ----- -/-	1-7,9, 11,12, 14,15,17



Further documents are listed in the continuation of Box C.



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 application or patent 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

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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2019/082684

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 100 11 719 A1 (COLOURCHEM PATENT INNOVATION L [GB]) 13 September 2001 (2001-09-13) paragraph [0011] columns 0024-002 paragraph [0022] -----	1-7,9, 10,12, 14,15,17
X	US 2016/101642 A1 (RICHERT MICHELLE [FR] ET AL) 14 April 2016 (2016-04-14) paragraph [0001] example 3 -----	1,2,5,9, 14-16
X	US 2012/308497 A1 (LEE YAO-CHUNG [TW]) 6 December 2012 (2012-12-06) paragraph [0002] paragraph [0027] paragraph [0037] -----	1,5,7,9, 14,15
X,P	WO 2018/234530 A1 (THEUNSEEN [GB]) 27 December 2018 (2018-12-27) page 1 claims 1-3 pages 23-28; examples 1-14 -----	1-12, 14-17

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2019/082684

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.:
1-12, 14-17

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: 1-12, 14-17

First Invention :Claim 1 which is directed to a coating product comprising an aqueous chromic composition comprising a colour-change component and a binder dispersed in an aqueous solution and wherein the coating product:i) further comprises a colourant dispersed or dissolved in the aqueous composition; orii) comprises a separate aqueous solution comprising a colourant adapted for use with the aqueous chromic composition to provide an underlying layer comprising colourant underlying the colour-change component and dependent claims 2-11, as well as method claims 14 to 17

2. claim: 13

Claim 13 is directed to a dried or cured coating comprising a colour-change component dispersed in a continuous phase comprising a dried or cured binder is derived from a dried or cured oligomer and/or, a dried or cured monomer, and an initiator, wherein the colour-change component is dispersed in the said continuous phase.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2019/082684

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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