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(54) Title: LASER-MARKABLE COMPOSITIONS

(57) Abstract: A laser-markable composition comprises a binder and an oxyanion of a multivalent metal.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 02/01250

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B41M5/26 C09D127/06 C09D129/04 C09D129/14 C09D101/28
C09D101/18 C08K3/24 C09D11/02

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 B41M C09D C08K

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)

WPI Data, PAJ, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE WPI Section Ch, Week 199915 Derwent Publications Ltd., London, GB; Class A89, AN 1999-175761 XP002202983 & JP 11 029711 A (NIPPON PELNOX KK), 2 February 1999 (1999-02-02) abstract & JP 11 029711 A 2 February 1999 (1999-02-02) paragraph '0009!	1-10, 14-16
X	WO 94 12352 A (PUT JOZEF ALBERT ;AAGAARD OLAV MARCUS (NL); DIJK HANS KLAAS VAN (N) 9 June 1994 (1994-06-09) page 1, line 7 -page 4, line 26 page 6, line 24 - line 27 examples II-IV,XVI	1-10, 14-16

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[X] Further documents are listed in the continuation of box C.

[X] 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

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"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	Date of mailing of the international search report
6 December 2002	20. 12. 2002

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Markham, R

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE WPI Section Ch, Week 199325 Derwent Publications Ltd., London, GB; Class A14, AN 1993-204168 XP002202984 & SU 1 743 896 A (AS BELO GEN INORG CHEM INST), 30 June 1992 (1992-06-30) abstract	1-10, 14-16
X	DATABASE WPI Section Ch, Week 199208 Derwent Publications Ltd., London, GB; Class A14, AN 1992-062857 XP002202985 & SU 1 650 477 A (AS BELO GEN INORG C), 23 May 1991 (1991-05-23) abstract	1-10, 14-16
X	DATABASE WPI Section Ch, Week 198232 Derwent Publications Ltd., London, GB; Class A89, AN 1982-66592E XP002202986 & JP 57 105393 A (TOPPAN PRINTING CO LTD), 30 June 1982 (1982-06-30) abstract	1-10, 14-16
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 02, 30 January 1998 (1998-01-30) & JP 09 263668 A (TSUTSUNAKA PLAST IND CO LTD), 7 October 1997 (1997-10-07) abstract	1-4,6
X	EP 0 105 451 A (PHILLIPS PETROLEUM CO) 18 April 1984 (1984-04-18) page 2, line 5 -page 4 page 5, line 32 -page 6, line 21 examples 2,6	1-3,6
P,X	WO 01 23189 A (GEN ELECTRIC) 5 April 2001 (2001-04-05) the whole document	1,3,6,10
X	US 5 626 966 A (HIRSCH RALF ET AL) 6 May 1997 (1997-05-06) the whole document	11,13-16
X	EP 0 447 032 A (BRITISH AEROSPACE) 18 September 1991 (1991-09-18) the whole document	11,13-16

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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.
A	PATENT ABSTRACTS OF JAPAN vol. 012, no. 487 (M-778), 20 December 1988 (1988-12-20) & JP 63 209889 A (HITACHI CHEM CO LTD), 31 August 1988 (1988-08-31) abstract	12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 02/01250

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: 1-10 (completely), 14-16 (partly)

   Laser-markable composition comprising binder and a compound comprising an oxyanion of a multivalent metal, and method of providing an image on a substrate, said method comprising applying said composition to the substrate, followed by irradiation.

   This subject is concerned with providing a laser-markable composition which is stable under ultraviolet light and at extrusion temperatures (description, page 2, lines 1-18), and an image-forming method using said composition.

2. Claims: 11-13 (completely), 14-16 (partly)

   A method for providing an image on a substrate, which comprises applying to a relatively small area of the substrate, a composition comprising a pigment and one or more other components that form an image on irradiation with laser light , and irradiating the imaging area, wherein the image has greater contrast with respect to the pigment than to the substrate, alternatively the pigment is not necessarily present in the composition, and the substrate comprises a white pigment.

   This subject is concerned with providing an image-forming method enabling high contrast to be seen between the image and it's immediate background, (description, page 1, lines 26-30; page 2, lines 19-30; example 12).

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/GB 02/01250

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