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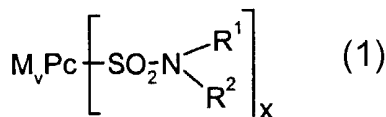
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- (71) Applicant (for all designated States except US): **AVECIA LIMITED** [GB/GB]; Hexagon House, Blackley, Manchester M9 8ZS (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **SHAWCROSS, Andrew, Paul** [GB/GB]; Hexagon House, P.O. Box 42, Blackley, Manchester M9 8ZS (GB). **BRADBURY, Roy** [GB/GB]; Hexagon House, P.O. Box 42, Blackley, Manchester M9 8ZS (GB).
- (74) Agents: **KIRK, Martin, John**; Avecia Limited, Intellectual Property Group, Hexagon House, P.O. Box 42, Blackley, Manchester M9 8ZS et al. (GB).
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(54) Title: PHTHALOCYANINE COMPOUNDS USED IN INKS FOR INK JET PRINTING



(57) Abstract: Phthalocyanine compounds of Formula (1) have utility as colorants in inks for ink-jet printing, in which: M represents a metal or H; Pc represents a phthalocyanine nucleus; R¹ and R² independently represent H or optionally substituted C₁₋₃₀carbonyl comprising an aliphatic carbon atom next to the sulphonamido group; v is the valence of Pc divided by the valence of M; and x is from 2.5 to 4.5; provided that R¹ and R² are other than both H.

A. CLASSIFICATION OF SUBJECT MATTER

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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)

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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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 519 395 A (EASTMAN KODAK CO) 23 December 1992 (1992-12-23)	1, 2, 6
Y	page 7, line 22 -page 12, line 20; example 74	1-6
Y	DE 34 11 476 A (CANON KK) 4 October 1984 (1984-10-04) abstract	1-6
Y	DATABASE WPI Section Ch, Week 198411 Derwent Publications Ltd., London, GB; Class E23, AN 1984-066348 XP002121160 & JP 59 022967 A (SUMITOMO CHEM CO LTD), 6 February 1984 (1984-02-06) abstract	1-6
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 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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Name and mailing address of the ISA

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

Authorized officer

Dauksch, H

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 649 881 A (BAYER AG) 26 April 1995 (1995-04-26) abstract; examples ---	1-6
A	FR 1 361 821 A (J. R.GEIGY S.A.) 9 September 1964 (1964-09-09) the whole document -----	1,2,6

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0519395 A	23-12-1992	US 5248538 A	28-09-1993
		CA 2070347 A	19-12-1992
		DE 69223089 D	18-12-1997
		DE 69223089 T	10-06-1998
		JP 5185735 A	27-07-1993
DE 3411476 A	04-10-1984	JP 1469723 C	14-12-1988
		JP 59179569 A	12-10-1984
		JP 63018981 B	20-04-1988
		GB 2139640 A,B	14-11-1984
		HK 71891 A	13-09-1991
		US 4632703 A	30-12-1986
JP 59022967 A	06-02-1984	JP 1601825 C	27-02-1991
		JP 2024866 B	30-05-1990
EP 0649881 A	26-04-1995	DE 4335958 A	27-04-1995
		JP 7196934 A	01-08-1995
		US 5501710 A	26-03-1996
FR 1361821 A	09-09-1964	BE 634694 A	