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(54) Title: AQUEOUS DIRECT DYE FORMULATIONS

(57) Abstract: The present invention relates to an aqueous direct dye formulation, comprising (a) 5 to 25 % by weight of a dye composition comprising (a1) 50-99 % by weight of one or more dyes obtainable by reduction or thermal treatment of Direct Yellow 11, and (a2) 1 -50 % by weight of a blue, black and/or red direct dye, (all based on the dye composition); (b) up to 0.9 % by weight of a saturated, cyclic or acyclic water-soluble amine comprising a primary, secondary or tertiary amino group and at least one further functional group selected from primary, secondary and tertiary amino groups, OH groups and ether groups; and (c) up to 0.9 % by weight of urea; and (d) water, wherein the percentages for (a), (b), and (c) relate to the total weight of the aqueous direct dye formulation. The invention moreover relates to a process for their preparation and the use thereof for the dyeing, in particular of paper, as well as paper which has been dyed with this aqueous direct dye formulation.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER INV. C09B67/22 D21H2 D21H21/28 C09B67/26 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) C09B D21H 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, 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 WO 2007/057370 A (BASF AG [DE]; KLOPP INGO 1-5,7-10[DE]; ETZBACH KARL-HEINZ [DE]; REICHELT HELMU) 24 May 2007 (2007-05-24) page 5, line 5 - line 11 page 8, line 23 - line 24 claim 1 EP 1 548 069 A (BASF AG [DE]) 1 - 10A 29 June 2005 (2005-06-29) cited in the application examples CH 642 100 A5 (CIBA GEIGY AG [CH]) 1.7 30 March 1984 (1984-03-30) claim 10 -/--X See patent family annex. Further documents are listed in the continuation of Box C. Special categories of cited documents : "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 "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 "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 filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another "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 docucitation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled other means "P" document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 13 December 2010 23/12/2010 Authorized officer 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 Ketterer, Michael

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