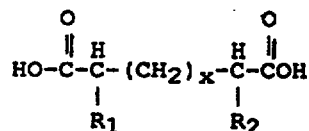


PCTWORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau1903 copy
9904090-9

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C08G 63/60	A2	(11) International Publication Number: WO 98/42768 (43) International Publication Date: 1 October 1998 (01.10.98)
(21) International Application Number: PCT/EP98/01903 (22) International Filing Date: 24 March 1998 (24.03.98) (30) Priority Data: 97200904.7 25 March 1997 (25.03.97) EP (34) Countries for which the regional or international application was filed: GB et al. (71) Applicant: SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V. [NL/NL]; Carel van Bylandtlaan 30, NL-2596 HR The Hague (NL). (72) Inventors: VAN GAALEN, Ronald, Petrus, Clemens; Badhuisweg 3, NL-1031 CM Amsterdam (NL). KOOIJMANS, Petrus, Gerardus; Badhuisweg 3, NL-1031 CM Amsterdam (NL). VOS, Eric, Johannes; Badhuisweg 3, NL-1031 CM Amsterdam (NL).	(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i>	

(54) Title: ACID FUNCTIONAL AND EPOXY FUNCTIONAL POLYESTER RESINS



(1)

(57) Abstract

Carboxyl functional polyester resins obtainable by reaction of (a) at least a compound of formula (I) wherein $x \geq 1$ wherein R_1 and R_2 each may represent an alkyl group having from 1 to 4 carbon atoms or wherein R_1 and R_2 may form together the remainder of cyclic cycloalkyl group (A1), optionally mixed with minor amounts of a corresponding compound of formula (I) wherein $x=0$, or anhydride thereof (A2), (b) at least one diol compound B, comprising two aliphatic hydroxyl groups, which may each independently be a primary or a secondary hydroxyl group; (c) optionally one dihydroxymonocarboxylic acid compound C, comprising a tertiary aliphatic carboxyl group and two aliphatic hydroxyl groups which may each independently be primary or secondary hydroxyl, and (d) optionally a trihydroxyalkane (D1) or tetrahydroxyalkane (D2); the molar ratio of compounds (A1+A2):B:C:D1:D2 being $X+Y+2Z+3Q+P:X:Y:Z:Q$, wherein X ranges from 1 to 8, Y ranges from 0 to 8, Z ranges from 0 to 4 and Q ranges from 0 to 3 and wherein P ranges from 1 to 5, preferably from 1 to 3 and is most preferably equal to 1, at a temperature of from 100 to 240, until essentially all the hydroxyl groups as initially present in the reaction mixture have been reacted; linear or branched polyglycidyl esters derived therefrom and powder coating compositions comprising one or both type of these ester types.