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(21) International Application Number: PCT/US99/04799 (22) International Filing Date: 5 March 1999 (05.03.99) (30) Priority Data: 09/158,584 22 September 1998 (22.09.98) US (71) Applicant: BORDEN CHEMICAL, INC. [US/US]; Kenneth P. Van Wyck, 180 East Broad Street, Columbus, OH 43215 (US). (72) Inventor: GERBER, Arthur, H.; 260 Wakefield Trace, Louisville, KY 40245 (US). (74) Agent: MASKAS, George, P.; 3361 Stonehenge Court, Colum- bus, OH 43221 (US).		(81) Designated States: AU, BR, CA, CN, IN, JP, KR, MX, NO, RU, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>With amended claims and statement.</i>
(54) Title: PHENOL-NOVOLACS WITH IMPROVED OPTICAL PROPERTIES (57) Abstract The specification discloses a method for the manufacture of a fluorescent polyphenolic product with high UV absorbance, its subsequent epoxidation as well as polyphenolic products and epoxidized derivatives and compositions thereof. The polyphenolic products are prepared by heating glyoxal at a temperature of about 80 °C to about 100 °C with a molar excess of a phenol in the presence of an acidic catalyst which is eliminated from the reaction mixture at a temperature about 170 °C. The total mole ratio of glyoxal to phenol charged to the reaction mixture is about 0.15 to 0.22 moles of glyoxal for each mole of phenol. The glyoxal is added continuously or by stepwise additions to the phenol so as to keep the aldehyde units in the reaction mixture to less than about 70% of the aldehyde units in the total quantity of glyoxal to be charged for making the polyphenol. Water is distilled stepwise or continuously from the reaction mixture. The catalyst is removed from the reaction mixture by further distilling the reaction mixture, generally at higher temperatures.		