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(54) SOLVENTLESS PREPARATION OF ESTER-SUBSTITUTED DIARYL **CARBONATES**

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(56)**References Cited**

FOREIGN PATENT DOCUMENTS

ΕP 9845246 10/1998 ΤP 11302228 11/1999

980861 A1

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ABSTRACT (57)

High yields of ester-substituted diary carbonates such as bis-methyl salicyl carbonate were obtained by the condensation of ester-substituted phenols with phosgene in the presence of a phase transfer catalyst (PTC) and optionally a tertiary amine catalyst in a solvent free reaction system comprising an aqueous phase held at a pH of 8.3 or higher. The optimized conditions of the present invention use an excess of ester-substituted phenol relative to phosgene and high conversion of phosgene to ester-substituted diaryl carbonate is observed. The product ester-substituted diaryl carbonate may be conveniently isolated as a solid by filtration or as a liquid in which the excess ester-substituted phenols serves as solvent. The method represents an attractive route for the manufacture of bis methyl salicyl carbonate and ester-substituted diaryl carbonates generally.

28 Claims, No Drawings