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(54) **SPIN COATABLE METALLIC HARD MASK COMPOSITIONS AND PROCESSES THEREOF**

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CPC ***C01G 41/00*** (2013.01); ***C01G 31/00*** (2013.01); ***C01G 39/00*** (2013.01); ***G03F 7/0047*** (2013.01); *H01L 21/0332* (2013.01)

(58) **Field of Classification Search**

CPC G03F 7/0047; G03F 7/091; G03F 7/094; G03F 7/11; C01G 31/00; C01G 39/00; C01G 41/00

See application file for complete search history.

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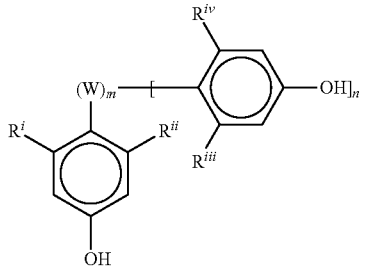
(57) **ABSTRACT**

The present invention relates to a novel spin coatable composition comprising

(a) metallosilicic acid; (b) at least one compound comprising two or more 4-hydroxyphenyl groups; and, c) a solvent. The component b) can be a 4-hydroxyphenyl compound of structure (I) wherein W is a linking group chosen from the group consisting of an organic linking moiety, a heteroatom containing linking moiety and a direct valence bond, m is a positive integer of 1 and n is a positive integer equal to 1 or and R^i, R^{ii}, R^{iii} and R^{iv} are independently chosen substituents from a group consisting of hydrogen, (C_1-C_6) alkyl, (C_1-C_6) alkoxy, (C_6-C_{20}) aryl, halides (such as Cl, I, F), hydroxyl, alkylcarbonyl (alkyl-C(═O)—), alkylcarbonyloxy (alkyl-C(═O)—O—), alkyloxycarbonyl (alkyl-O—C(═O)—), alkyloxycarbonyloxy (alkyl-O—C(═O)—O—) and mixtures of these; and a solvent.

(I)



The present invention further relates to processes using the novel compositions.

14 Claims, 1 Drawing Sheet