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(54) **FLAME RETARDANT TEXTILE**

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(58) **Field of Classification Search**

USPC ..... 442/138, 152, 164, 172, 153; 524/588; 556/405

See application file for complete search history.

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(57)

**ABSTRACT**

The disclosure relates to curable polysilyl phosphate compounds and compositions as well as related methods and flame-retardant textiles incorporating the same. Curable polysilyl phosphate compounds according to the disclosure include a hydrocarbon moiety comprising at least one phosphate group and more than two hydrolysable silyl groups linked to the hydrocarbon moiety. In some embodiments, the hydrocarbon moiety is derived from spirocyclic pentaerythritol diphosphoryl chloride. The curable polysilyl phosphate compound can be applied to a textile substrate and then cured to provide a flame-retardant textile with the cured polysilyl phosphate compound as a coating bonded to the textile substrate.

**19 Claims, 2 Drawing Sheets**

