

Title (en)
IONIC LIQUID SURFACE COATINGS

Title (de)
OBERFLÄCHENBESCHICHTUNGEN MIT IONISCHER FLÜSSIGKEIT

Title (fr)
REVÊTEMENTS DE SURFACE LIQUIDES IONIQUES

Publication
EP 4110745 A1 20230104 (EN)

Application
EP 21708343 A 20210219

Priority
• GB 202002665 A 20200225
• GB 2021050427 W 20210219

Abstract (en)
[origin: GB2592383A] A water-repellent material comprises a substrate and an ionic liquid coating of formula $[(R'O)3Si-Y-X-R3] [Z]^-$, wherein X is nitrogen, sulphur, or phosphorus; Y is a divalent aromatic or C1-10 aliphatic linker; $[Z]^-$ is an anion; R' is C1-12 alkyl; and R is independently C1-18 alkyl optionally substituted by halogen and/or C1-16 alkyl or where the R groups combine with $[X]^+$ to form a heterocycle in which one R group may be a bond. The ionic liquid is at least partially crosslinked and chemically bonded to the substrate. Preferably, R' is methyl or ethyl; R is independently selected from methyl or fluorinated C2-14 alkyl; Y is C2-6 alkylene, dialkanylether, or functionalised polystyrene; and $[Z]^-$ is halide, phosphate, sulphate, sulphonate, borate, carboxylate, amide, or imide. The substrate may be a construction material or medical device having surface hydroxyl groups. In another aspect, a dispersion for forming a water-repellent coating comprises a liquid medium and the ionic liquid.

IPC 8 full level
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1. **C04B 41/009 + C04B 28/02**
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Designated extension state (EPC)
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