

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
27 January 2022 (27.01.2022)



(10) International Publication Number
WO 2022/020701 A1

(51) International Patent Classification:

C23C 16/30 (2006.01) H01L 21/02 (2006.01)
C23C 16/505 (2006.01) C07F 7/18 (2006.01)
C23C 16/56 (2006.01)

(21) International Application Number:

PCT/US2021/042935

(22) International Filing Date:

23 July 2021 (23.07.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/056,310 24 July 2020 (24.07.2020) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(54) Title: CYCLOSILOXANES AND FILMS MADE THEREWITH

(57) Abstract: A composition useful in depositing low dielectric constant (low-k) insulating materials into high aspect ratio gaps, trenches, vias, and other surface features, of semiconductor devices by a plasma-enhanced chemical vapor deposition (PECVD) process is disclosed. The composition may comprise an alkoxy-functionalized cyclosiloxane derived from trimethylcyclotrisiloxane, tetramethylcyclotetrasiloxane, or pentamethylcyclopentasiloxane. The alkoxy-functionalization may comprise between 1 and 10 carbon atoms. A method of depositing the alkoxy-functionalized cyclosiloxane composition by a PECVD process is also disclosed. Finally, a film comprising a flowable liquid, or oligomer, comprising the oligomerized, or polymerized, alkoxy-functionalized cyclosiloxane composition, on a substrate is disclosed.



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