

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

(19) World Intellectual Property
Organization
International Bureau



(10) International Publication Number
WO 2023/009065 A2

(43) International Publication Date
02 February 2023 (02.02.2023)

(51) International Patent Classification:
Not classified

(21) International Application Number:
PCT/SG2022/050438

(22) International Filing Date:
27 June 2022 (27.06.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10202108213T 27 July 2021 (27.07.2021) SG

(71) Applicant: SINGAPORE POLYTECHNIC [SG/SG];
500 Dover Road, Singapore 139651 (SG).

(72) Inventors: **LI, Xiaodong**; Advanced Materials Technology
Centre, Singapore Polytechnic, 500 Dover Road, Singapore
139651 (SG). **LU, Yanru**; Advanced Materials Technology
Centre, Singapore Polytechnic, 500 Dover Road, Singapore
139651 (SG). **YIN, Xi Jiang**; Advanced Materials Technol-
ogy Centre, Singapore Polytechnic, 500 Dover Road, Sin-
gapore 139651 (SG).

(74) Agent: SPRUSON & FERGUSON (ASIA) PTE LTD;
P.O. Box 1531, Robinson Road Post Office, Singapore
903031 (SG).

(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, IQ, IR, IS, IT, JM, 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).

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

— without international search report and to be republished
upon receipt of that report (Rule 48.2(g))

WO 2023/009065 A2

(54) Title: METHOD FOR MAKING SILICA AEROGEL BLANKET

(57) Abstract: The present invention relates to a method of fabricating a silica aerogel blanket, comprising the steps of: providing incineration bottom ash; extracting silica from the incineration bottom ash in the presence of a base to form a water glass; forming a silica gel from the water glass; and contacting the water glass with a fibre to form a silica aerogel blanket. The present invention also relates to a silica aerogel blanket fabricated by the method and the use of incineration bottom ash in the fabrication of a silica aerogel blanket.