

Title (en)
SILICON CARBON COMPOSITE PARTICLES

Title (de)
SILICIUM-KOHLENSTOFF-KOMPOSITPARTIKEL

Title (fr)
PARTICULES COMPOSITES DE SILICIUM-CARBONE

Publication
EP 4146594 A1 20230315 (DE)

Application
EP 21719617 A 20210416

Priority
EP 2021059963 W 20210416

Abstract (en)
[origin: WO2022218550A1] The invention relates to silicon-carbon composite particles having a) an alkali or alkaline earth metal concentration of 0.05 to 10 wt. % and b) a pH > 7.5; to a method for their preparation by silicon infiltration from silicon precursors in the presence of porous carbon particles; anode material for a lithium-ion battery containing said silicon-carbon composite particles; an anode comprising a current conductor coated with said anode material; and a lithium-ion battery comprising at least one anode which contains said silicon-carbon composite particles.

IPC 8 full level
C01B 32/372 (2017.01); **C01B 33/027** (2006.01); **C01B 33/029** (2006.01); **C23C 16/00** (2006.01)

CPC (source: EP KR US)
C01B 32/05 (2017.07 - KR); **C01B 32/372** (2017.07 - EP); **C01B 33/027** (2013.01 - EP KR); **C01B 33/029** (2013.01 - EP KR US); **C23C 16/045** (2013.01 - EP KR); **C23C 16/24** (2013.01 - EP KR); **H01M 4/133** (2013.01 - EP); **H01M 4/134** (2013.01 - EP); **H01M 4/366** (2013.01 - EP KR US); **H01M 4/386** (2013.01 - EP US); **H01M 4/587** (2013.01 - EP KR US); **H01M 10/0525** (2013.01 - EP US); **C01P 2004/51** (2013.01 - KR US); **C01P 2006/12** (2013.01 - KR US); **C01P 2006/14** (2013.01 - US); **H01M 2004/027** (2013.01 - EP KR); **H01M 2300/002** (2013.01 - US); **Y02E 60/10** (2013.01 - EP)

Citation (search report)
See references of WO 2022218550A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
WO 2022218550 A1 20221020; CN 115836027 A 20230321; EP 4146594 A1 20230315; JP 2024503167 A 20240125; KR 20230012621 A 20230126; US 2023278877 A1 20230907

DOCDB simple family (application)
EP 2021059963 W 20210416; CN 202180044275 A 20210416; EP 21719617 A 20210416; JP 2022578780 A 20210416; KR 20227044693 A 20210416; US 202118019845 A 20210416