



製造多顆氧化矽顆粒之方法

提案人：藍崇文 特聘教授

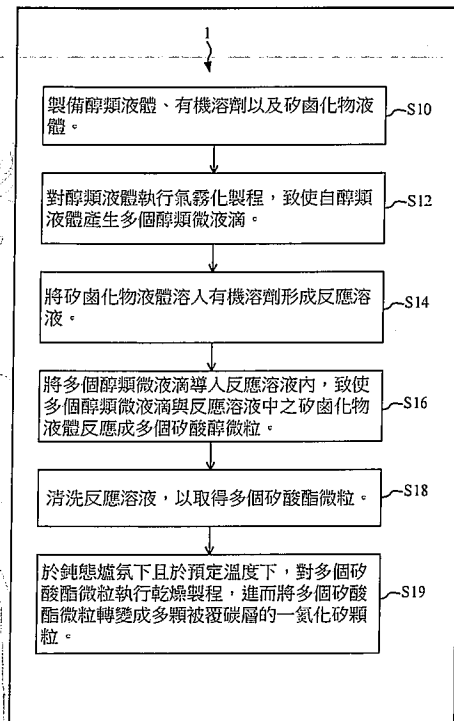
單位：國立臺灣大學 化學工程學系/研究所

簡歷：請參閱系所網頁

<http://www.che.ntu.edu.tw/che/?p=501>

市場及需求：鋰電池及相關產業

技術摘要(含成果)：一種製造多顆一氮化矽顆粒之方法。本發明之方法首先係對醇類液體執行氣霧化製程，致使自醇類液體產生多個醇類微液滴。接著，本發明之方法係將矽鹵化物液體溶入有機溶劑形成反應溶液。接著，本發明之方法係持續攪拌反應溶液，且將多個醇類微液滴導入反應溶液內，致使多個醇類微液滴與反應溶液中之矽鹵化物液體反應成多個矽酸醇微粒。接著，本發明之方法係清洗反應溶液，以取得多個矽酸酯微粒。最後，本發明之方法係對多個矽酸酯微粒執行乾燥製程，進而將多個矽酸酯微粒轉變成多顆被覆碳層的一氮化矽顆粒。



優勢：新穎之鋰電池負極材料，可增加鋰電池壽命

競爭產品：目前市面上的鋰電池

專利現況：

- (1)本技術已有相關專利（中華民國專利申請號:XXXX；美國專利證號:XXX）。
- (2)本研究團隊具有數十年研究經驗…
- (3)其他…

聯絡方式(請不用填)：

臺大產學合作總中心

Tel: 02-3366-9945, E-mail: ntuciac@ntu.edu.tw



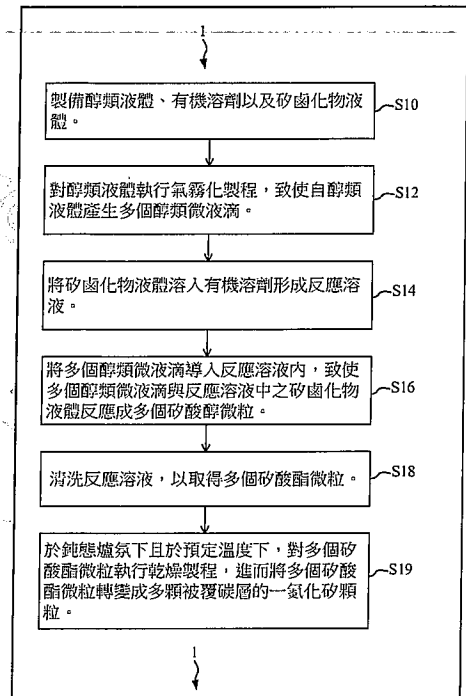
METHOD OF MANUFACTURING SILICON MONOXIDE

PI : Prof. Chung Wen Lan

Department of Chemical Engineering,
National Taiwan University

Experience:

The invention discloses a method of manufacturing silicon monoxide particles. Firstly, the method according to the invention is to perform a nebulization process on an alcohol liquid such that a plurality of alcohol micro-droplets are generated from the alcohol liquid. Next, the method according to the invention is to dissolve a silicon halide liquid into an organic solvent to form a reaction solution. Then, the method according to the invention is to continuously stir the reaction solution, and to introduce the plurality of alcohol micro-droplets into the reaction solution such that the plurality of alcohol micro-droplets react with the silicon halide liquid in the reaction solution into a plurality of silicic acid ester micro-particles. Next, the method according to the invention is to wash the reaction solution to obtain the plurality of silicic acid ester micro-particles. Finally, the method according to the invention is to perform a drying process on the plurality of silicic acid ester micro-particles such that the plurality of silicic acid ester micro-particles transform into a plurality of silicon monoxide particles coated with carbon layers.



Market Needs:

There is growing demand for next-generation Li-ion batteries.

Our Technology:

This new method is different from previous. It is easy, low cost.

Strength:

The materials obtained were tested as an anode for Li storage, and showed a significantly improvement.

Competing Products:

Li-ion batteries

Intellectual Properties:

The materials obtained were tested as an anode for Li storage, and showed a significantly improved electrochemical properties.

Contact (do not need to fill out):

Center for Industry-Academia Cooperation, NTU
Tel: 02-3366-9945, E-mail: ntuciac@ntu.edu.tw