

## Name of the Technology: Development of Mesocarbon Microbeads

### Summary:

Mesocarbon microbeads (MCMB) are special kind of carbonaceous material with spherical appearance of diameter 1-50  $\mu\text{m}$  and represent an industry benchmark as anode materials for lithium-ion batteries which deliver a reversible capacity of 300-340mAh/g and excellent cyclability. We have prepared MCMB from heat treatment of low cost pitches such as coal tar pitch and petroleum pitch. Graphitized MCMB powder prepared at CSIR-NPL delivered high discharge capacity of 340 mAh/g after 50 cycles.

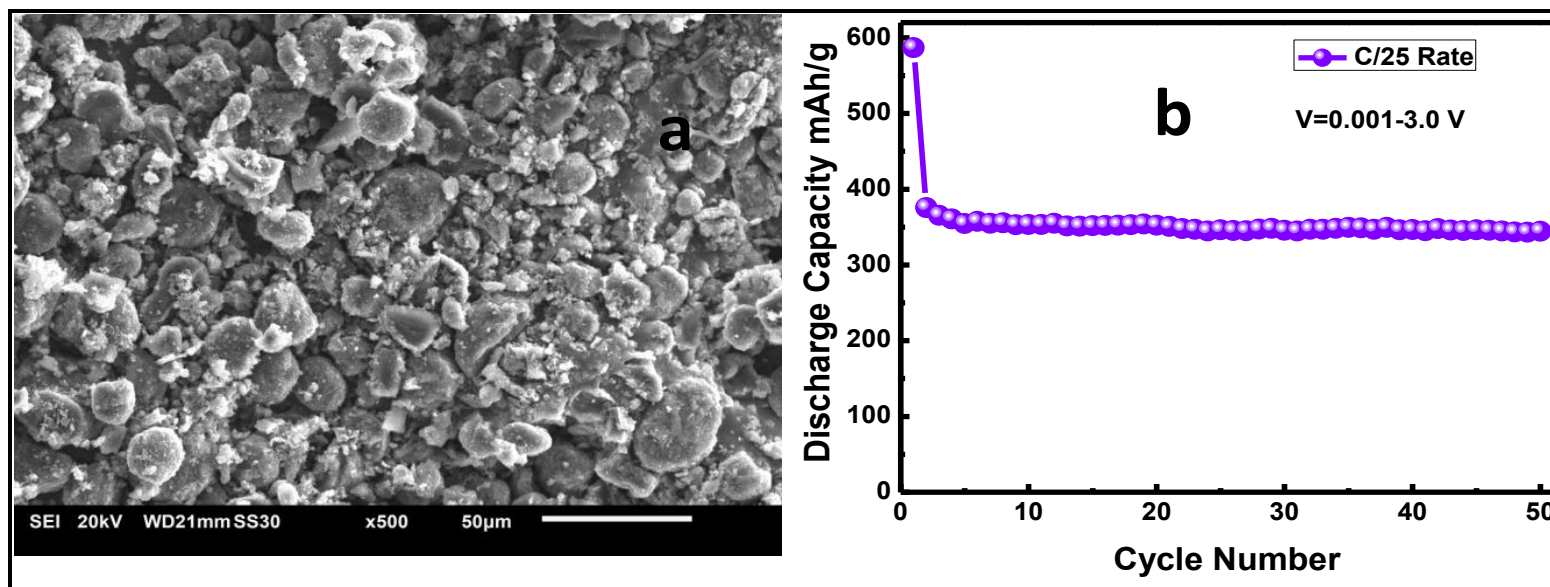


Figure (a) SEM image of Graphitized MCMB powder and (b) Discharge capacity of MCMB based anode

### Applications

- Li ion battery
- Super capacitor
- Development of high-density carbon



### Advantages:

The present technology is a cost effective approach towards the synthesis of mesocarbon microbeads (MCMB) by utilizing low cost coal tar pitch and petroleum pitch. MCMB prepared at CSIR-NPL exhibited good capacity and excellent cyclability and can be utilized for synthesis of battery.

### Choose the Readiness level of the Technology:

Idea	Concept Definition	Proof of Concept	Prototype	Lab Validation	Technology Development	Technology Demonstration	Technology Integrated	Market Launch

### Related Patents:

**Patent No:** Know how

**Country:** Nil

**Publication date:** Nil

**Grant Date:** Nil

**Year of Introduction:** 2015-16

**Broad Area/Category:** Advanced carbon products

**User Industries:** Battery Industry