

**Acid Purification Of Carbon Nanotubes Grown By CCVD For Hydrogen
Storage
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Abstract

Purification of CNT through acid treatment is studied in order to obtain an optimal performance of CNT grown by CCVD for hydrogen storage. The purification method consists of reflux treatment of HCl and HNO₃ is applied in the study. The effect of reflux temperature and duration of reaction are studied and the effectiveness of the purification in the conditions mentioned above is compared. FESEM and BET surface area analysis, both before and after purification, to monitor and observe the changes in morphology and surface area due to purification respectively. Acid treatment is capable in removing the metal catalysts and amorphous carbon, thus resulting in tips opening. The opening of tips which in turn results in the increase in CNT specific surface area is one of the essential factors that contribute to the enhancement of hydrogen storage capacities.