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Title: Graphitized Carbon Nanofibers: new additive for the Negative Active Material of Lead Acid Batteries

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**Graphitized Carbon Nanofibers: new additive for the Negative Active Material of  
Lead Acid Batteries.**

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**Highlights:**

- Graphitized Carbon Nano Fibers with high aspect ratio were used as additives.
- These carbon nanofibers were dispersed together with a lignosulfonate.
- 2 V / 1 Ah Lead Acid cells were prepared for testing the negative plate performance.
- Nanofibers improved negative plates overall conductivity and cycle life.
- High dosages of Nanofibers raised Hydrogen Evolution Reaction rate.

**Abstract**

Graphitized Carbon Nanofibers (GANFg) were dispersed with a certain amount of organic expander and used as additive for the negative plates of the Lead Acid Batteries (LABs). Due to the high aspect ratio of these fibers, they are thought to reach the percolation threshold inside the Negative Active Material (NAM) and create a conductive network which would improve the cycle life of the LABs working in Partial

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