Is Lithium a Safe Power Source?

Mishra, Aditya

The purpose of this experiment was to understand and determine whether single use lithium batteries had operational restrictions that could cause them to be dangerous in use. The batteries were placed into two separate battery holders that became a 12v power source. These battery holders were placed into a covered plexiglas container with a ceramic tile at the base as a precaution for heat. Next the battery holders were connected to two bolts attached on the plexiglas box connecting it to the rest of the circuit. Two temperature probes were placed on the anode and cathode side of the power source. Depending upon whether the experiment was air- cooled or not, the holes not in use were sealed. All connections were verified and measuring devices were turned on. Data collection ended when the spin vein attached to the motor stopped spinning. The experimentation showed an increase of 198% (self cool); 206.23% (external air pump); 210.45% (suction pump)and 215% (Heat sink with suction pump) in usable energy. Based on the experimental data lithium batteries are safest with ambient cooling, heat sink and some form of suction to aid in air movement over the power source. Further experimentation is required with lithium ion rechargeable batteries to see if they behave in similar fashion.

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