

Improved polymers for lithium ion batteries pave the way for next generation of electric and hybrid cars

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The next generation of electric and hybrid cars may be a step closer thanks to new and improved polymer membranes that allow the development of bigger, safer, and more powerful lithium ion batteries, according to an article scheduled for the Feb. 18 issue of Chemical & Engineering News, ACS' weekly newsmagazine.

In the article, C&EN Senior Editor Alexander H. Tullo notes that polymer membranes are already an essential component of lithium ion batteries that power iPods, laptop computers, and other portable electronic devices. These porous, hair-thin separators control the flow of electrons through the battery. Their failure can result in overheating and even fires. Such problems have recently prompted the widespread recall of millions of lithium ion batteries.

Tullo points out that lithium ion batteries will need to be bigger, safer, and more powerful if they are to be used effectively in motor vehicles. For that purpose, improved polymer separators are needed. Recently, battery manufacturers have stepped up to this challenge by developing new polymer separators with greater porosity for improved power flow and stronger insulation materials for improved safety.

At least one manufacturer is already using a new type of polymer separator in a new line of electric vehicles, while other advanced polymers are making their way through the development pipeline,

according to the article. “The reality of driving to work under electric power may only be a hair away,” Tullo says.

Source: ACS

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