# Article information:

Electrospun PMIA and PVDF-HFP composite nanofibrous membranes with two different structures for improved lithium-ion battery separators - ScienceDirect
<https://www.sciencedirect.com/science/article/pii/S0167273819309464>

# Article summary:

1. Two methods were used to combine poly (m-phenylene isophthalamide) (PMIA) with polyvinylidene fluoride-hexafluoropropylene (PVDF-HFP).

2. The composite membranes showed excellent thermal stability, mechanical strength, and electrochemical stability.

3. The PMIA@PVDF-HFP composite nanofibrous membrane with core-shell structure showed superior properties than the PMIA/PVDF-HFP membrane prepared by simultaneous electrospinning, making it an ideal separator material in lithium-ion batteries.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “Electrospun PMIA and PVDF-HFP Composite Nanofibrous Membranes with Two Different Structures for Improved Lithium-Ion Battery Separators” is a reliable source of information on the use of composite nanofibrous membranes as separators in lithium ion batteries. The article provides a detailed description of the two methods used to combine poly (m-phenylene isophthalamide) (PMIA) with polyvinylidene fluoride-hexafluoropropylene (PVDF-HFP), as well as the results of testing the properties of the resulting composite membranes. The article also presents evidence that these composite membranes have better electrochemical performance and cycle stability than commercial Celgard membranes, making them suitable for use as separators in lithium ion batteries.

The article does not appear to be biased or one sided, as it presents both sides of the argument fairly and objectively. It does not make any unsupported claims or omit any points of consideration, and all claims are backed up by evidence from experiments conducted by the authors. Furthermore, there are no promotional elements present in the article, nor does it appear to be partial towards either side of the argument. Finally, possible risks associated with using these composite nanofibrous membranes are noted throughout the article.

In conclusion, this article is a reliable source of information on using composite nanofibrous membranes as separators in lithium ion batteries due to its lack of bias or one sidedness, its support for all claims made with evidence from experiments conducted by the authors, its lack of promotional content or partiality towards either side of the argument, and its acknowledgement of possible risks associated with using these materials.

# Topics for further research:

* Lithium-ion battery separator properties
* Electrospun nanofibrous membranes
* Poly (m-phenylene isophthalamide)
* Polyvinylidene fluoride-hexafluoropropylene
* Electrochemical performance of lithium-ion batteries
* Cycle stability of lithium-ion batteries

# Report location:

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